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Hand-book of British Guiana

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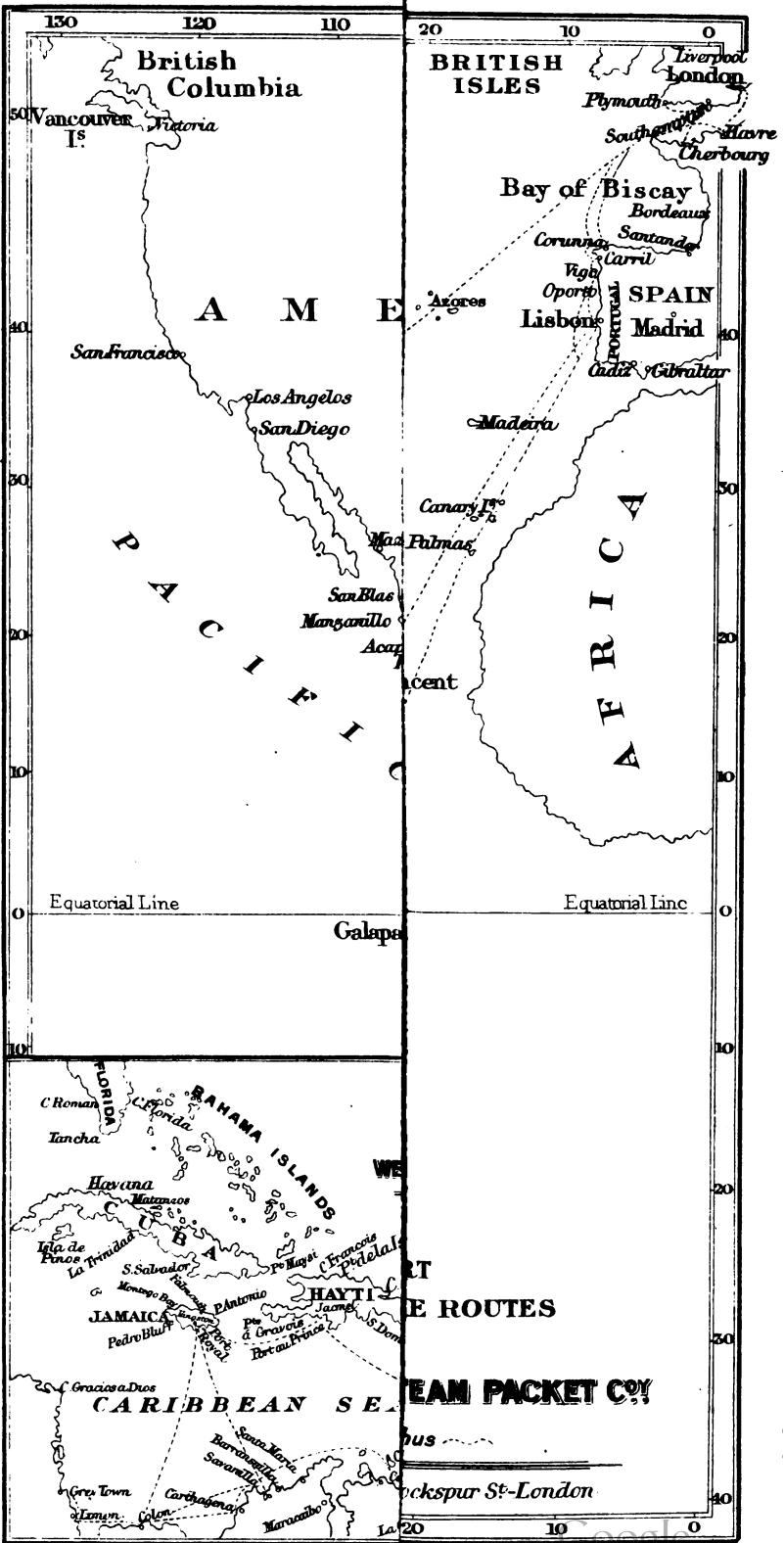
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HAND-BOOK

OF

BRITISH GUIANA

BY

JAMES RODWAY, F.L.S.

PREPARED UNDER THE DIRECTION OF
*THE COLUMBIAN EXPOSITION LITERARY COMMITTEE
OF THE ROYAL AGRICULTURAL AND
COMMERCIAL SOCIETY*



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HAND-BOOK OF BRITISH GUIANA.

GENERAL DESCRIPTION.

THE COLONY.

B RITISH GUIANA comprises the old Dutch settlements of Demerara, Essequebo, and Berbice, which were captured in 1803 and finally ceded to Great Britain in 1815. Pending the settlement of its boundaries with Brazil and Venezuela, its area cannot be exactly stated, but it may be generally affirmed to include a territory of about the size of the United Kingdom. Situated on the north-eastern corner of South America, between one and nine degrees of north latitude, it is, like the neighbouring countries, remarkably well watered. Along its coast-line of about three hundred miles the mouths of a dozen great rivers pour continuous streams of dark water into the Atlantic, discolouring the sea for fifty miles beyond its muddy shores. The greatest of these rivers is the Essequebo, which rises on the borders of Brazil, and, flowing from south to north, drains with its numerous tributaries almost the whole interior of the colony. Other large rivers are the Corentyne, which separates British from Dutch Guiana, and the Berbice, while the Demerara, which is about as large as the Thames, is the most important from the fact that the capital

is situated at its mouth, and that its banks are more settled than those of any other river in the colony.

THE COAST.

The continual denudation of a heavy rainfall of a hundred to a hundred and thirty inches annually, which causes high floods twenty to thirty feet above the level of the dry season, has been going on for ages, with the result that the primitive sandy shore is found about twenty miles inland, while the present coast is a fertile mud-flat, in many places below high-water mark. This rich alluvial strip was originally nothing more than a mangrove swamp in front and a morass behind, but from the labour of the first settlers a portion has been drained and laid out in sugar plantations. At different times almost the whole coast-line, as well as the banks of the rivers as far inland as fifty to a hundred miles, has been under cultivation, but latterly only the more fertile sea-coast and about ten miles from the mouths of one or two rivers have been kept up. Like Holland, the coast has to be protected by an expensive system of dams and dykes. The cost of these works prevents any but capitalists from carrying on sugar plantations, and it has naturally resulted that during the last fifty years the number of estates has greatly diminished, while those in cultivation have enlarged their fields, improved their manufacture, and reduced the cost of their produce. It has therefore followed that, although the plantations are now less in number than at the best times of the last century, their output of sugar has steadily increased.

DRAINAGE.

On account of the heavy rainfall and the flatness of the coast region, there are great difficulties in the way of proper drainage.

To avoid flooding from the swamps behind, every town, village, and plantation has to keep up a back dam, while to carry off the water, canals and ditches intersect each other in every direction ; these lead into three or more principal draining trenches ; which are used also on all the estates, as navigation canals. By means of these — there being hardly any roads — the canes are brought to the mills in punts. Through openings in the front dams, closed at high water by marine gates called kokers, the canals empty themselves into the sea. Most of the estates, as well as the towns and villages, however, supplement the tidal drainage by powerful steam draining engines, which are indispensable during a heavy wet season. Sometimes as much as eight inches of rain will fall in a day, and then every possible means must be taken to prevent flooding, which would kill the cane plants if the water were not soon drained off.

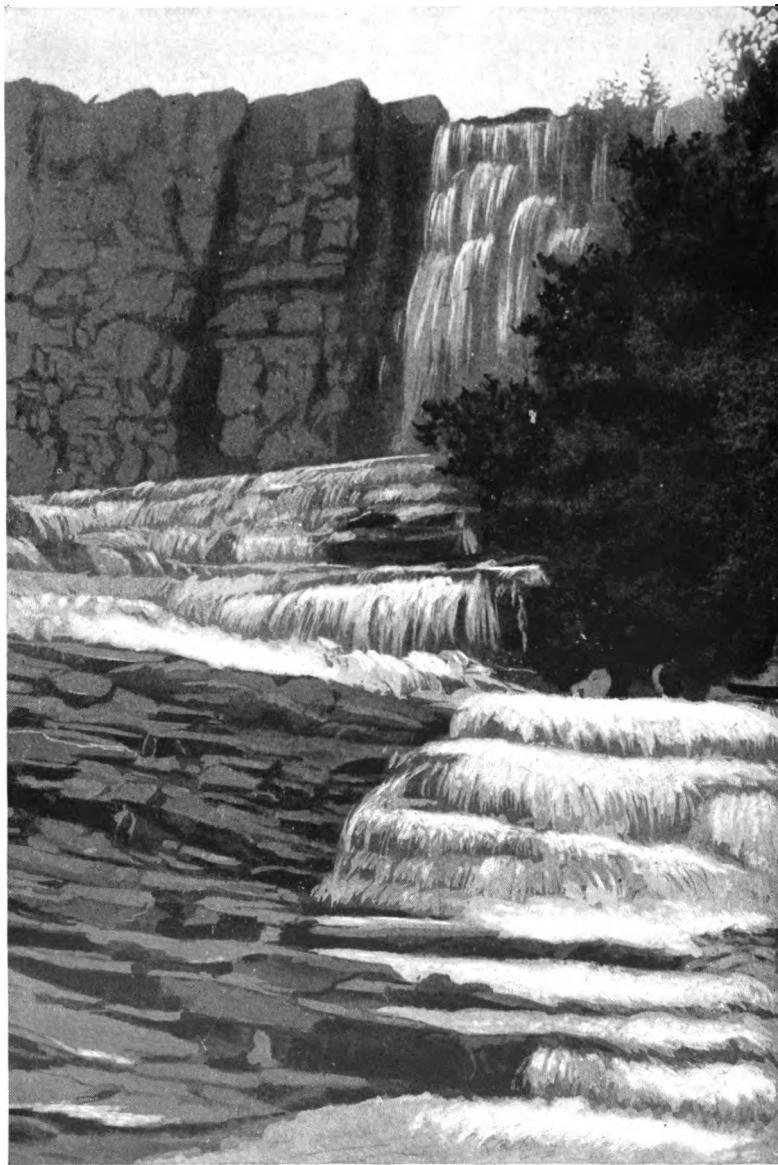
RICHNESS OF THE SOIL.

The soil of the coast consists of a mixture of clay and mud of considerable depth and almost unequalled richness. Alteration of the crops is unknown, sugar-canies growing year after year in the same soil with hardly any deterioration. To increase the production, however, most of the plantations use chemical manures, and especially lime, which latter is almost wanting naturally. With such a soil and heavy rainfall, it follows that crops are also heavy, while almost every tropical production can be grown to perfection. Nothing can exceed the luxuriance of the vegetation, weeds of course coming to the front and choking the cultivated plants if not kept under control. Plantains, Indian corn, yams, sweet potatoes, and a host of fruits ripen all the year round, and, barring floods, and now and then a drought,

are easily grown. True, the soil is very heavy and hard to cultivate, and the weeds difficult to eradicate, but this is quite natural, the rich soil nourishing both the desired vegetable and the detested weed when left alone.

THE SAND-REEFS.

Behind the fringe of plantations, which rarely extend beyond three miles from the sea-shore, lie swamps choked with tall sedges, the soil being a kind of disintegrated peat called pegass. Here and there an island of sand crops up, on which a few trees and bushes manage to exist, with grand clumps of the Eta palm (*Mauritia flexuosa*) scattered here and there, or perhaps surrounding what looks like an extensive meadow. Wherever the land begins to rise these magnificent palms rear their heads in the foreground, while behind, the wall of interminable forest closes the view. Here comes the white sand beach of long ages ago. Miles and miles of pure sand, washed as clean as driven snow, throw up a glare under the noonday sun which is dazzling to the eyes and sometimes quite painful. The barefooted Indian cuts two pieces of bark, and makes himself a pair of slippers when crossing the "Mourie," as it is called, and even the well-shod European feels it hot to the soles of his feet. But even here, where there is hardly a trace of mould, some hardy bushes manage to exist, their roots penetrating far below the surface where it is always cool and moist. On these arid reefs the pineapple finds a congenial home, its ancestors having perhaps been planted beside some Indian habitation, every trace of which has long since disappeared, and the very tribe become extinct. Here also the Krattee or Pita hemp is found growing, this being also a relic



FALLS ON THE MASARUNI.

of an Indian settlement of some past age. In the gullies between the sand-reefs flow little rivulets, and here forest trees secure a footing, while ferns, selaginellas, and marantas make an impenetrable jungle.

THE FOREST REGION.

Commencing at the sand-reefs, the flatness of the coast region gives place to an undulating country, which gradually rises to hills and then mountains. The greater portion of this vast territory is covered with primeval forest — a portion of that wilderness of vegetation which extends with only a few breaks over a great portion of South America. A few descendants of old settlers or their slaves live on the banks of the Demerara, Essequibo, and Berbice rivers, and here and there a woodcutter or gold seeker; these comprise, with the remnants of scattered tribes of Indians, the inhabitants of this region. Sometimes not a single human being can be found within a hundred miles, even the Indians having gone away for some unexplained reasons. Yet this wilderness abounds with riches. Not to mention gold,— of which more presently,— the timbers and furniture woods are incalculably valuable, while the river banks, although not so fertile as the alluvium of the coast, could support tens of thousands of homesteads. No one who has seen the tropical forest can ever forget its beauty and grandeur. Notwithstanding its gloom, which resembles that of a vast cathedral, and its silence, there is something about it which charms—“the pleasure of the pathless woods.”

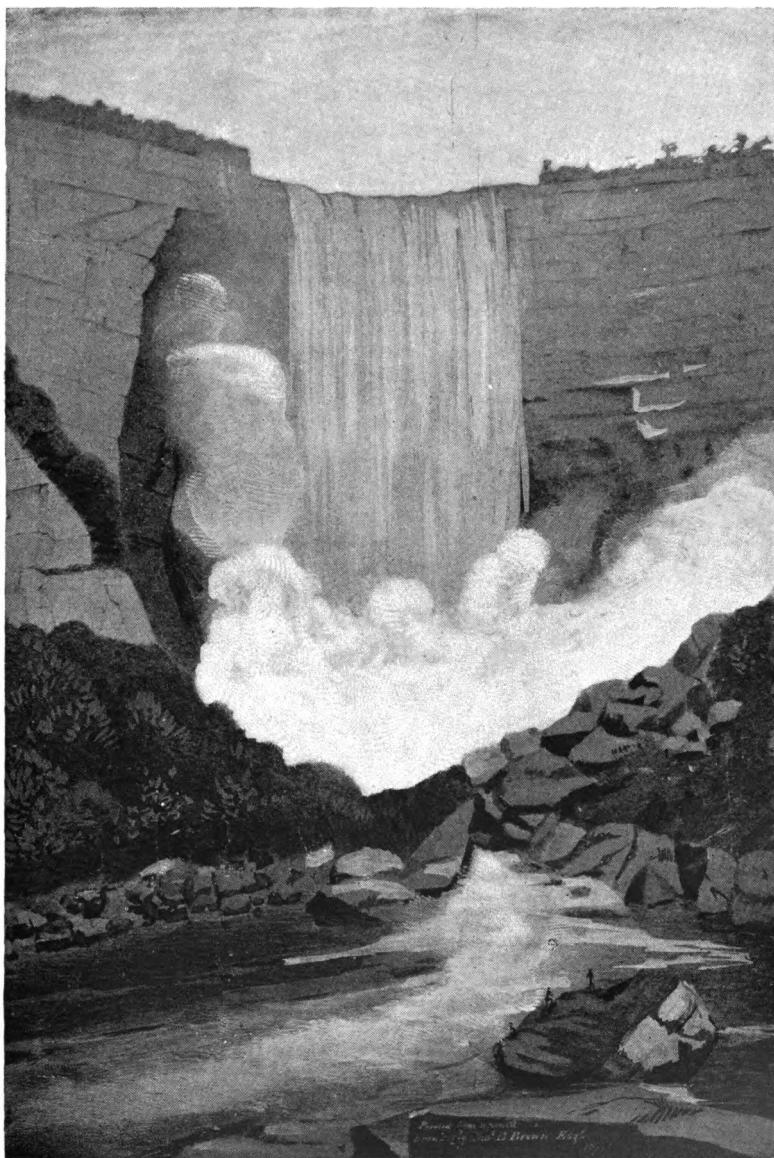
THE RAPIDS AND WATER-FALLS.

At distances varying from fifty to two hundred miles from the sea all the great rivers are obstructed by granite rocks and

boulders, which cause rapids, falls, and cataracts. In the Essequebo the rapids commence at a distance of about fifty miles from its mouth, and hinder navigation of the upper river to a considerable extent. They have entirely prevented the development of the timber industry in the upper river, and are a continual danger and obstacle in the way of the gold-diggers. In going up these rapids boats have to be unloaded and in some places hauled over portages, while in coming down the recklessness of "shooting the falls" has resulted in the loss of many lives. These, and especially some falls in other rivers, are, however, very beautiful. Bordered by the primeval forest, the immense black-weathered boulders contrast with white foam, while a hundred little falls pour their rushing streams through broad channels and narrow gaps, turned to one side here and another there, and make the scene both wild and grand. To add to its picturesque appearance, a naked Indian may now and then be seen standing on an immense boulder, with bow drawn, ready to shoot the pacou and other large fish which lurk in the deep pools.

KAIETEUR FALLS.

The grandest water-fall is undoubtedly the Kaieteur or Old Man's fall of the river Potaro, a tributary of the Essequibo. From a height of seven hundred and forty-one feet a sheet of water about three hundred feet wide falls perpendicularly into a basin below, from whence it continues its course in a series of rapids for another eighty-one feet. The rocks being sandstone are much weathered and water-worn, their interstices being filled with lovely filmy ferns and mosses. Altogether, with its surroundings of forest, from which trickle hundreds of little streamlets, its cave behind the veil of water, and its awful soli-



KAIETEUR FALLS.

RORAIMA.



tude, it may be considered as one of the most interesting in the world. To add to its charm to some minds, there are so many rapids to be passed before it is reached that very few persons have ever seen it. The Tumatamari falls of the same river are also very beautiful, being only thrown in the shade by the mighty Kaieteur.

RORAIMA.

The most remarkable group of mountains is that of which Roraima is the highest. Towering upwards from a slope six thousand feet above the sea level rises an immense sandstone rock like a gigantic castle, with perpendicular cliffs on every side, from the top of which pour numerous cascades, that break into mist and spray before they reach the slope. Several attempts were made to find a way to the top, which is about two thousand feet above the wooded slopes of the mountain, and it was looked upon as inaccessible until Mr. im Thurn found a path by which he gained the summit in 1884. By means of ledges and the bed of a watercourse which had to be cleared from the dense masses of vegetation that choked the way, he, after a toilsome climb, succeeded in reaching the flat top. Here he came upon a scene which is probably unequalled in the world. The sandstone has been worn away by sun and rain in such a manner that rocks and boulders of the most fantastic shapes litter the surface. Great pillars with broad tops stand on insignificant bases, appearing ready to topple over with the slightest touch, while pyramids, irregular cubes, and flat tables obstruct the view in every direction. The surface is very uneven, the depressions filled with water and forming miniature lakes, from which proceed meandering streams, kept full and overflowing by the almost incessant

rains. In 1891 two plant collectors spent a night on the summit, and found it very cold and uncomfortable after the tropical heat of the lower levels. Having settled on a place for their camp and laid down the few necessities they had been able to bring up, they wandered through the maze and lost their way, only stumbling on the camping-ground by accident after night-fall. The Roraima plateau is estimated to be about eight miles long by four wide. Kukenam is similar and about the same size, but not so high, while two or three other mountains in the group are much the same but less striking. Up to the present only Roraima has been ascended, and that by no more than two or three persons, on account of the trouble, expense, and privation incurred in the journey, which takes about three months.

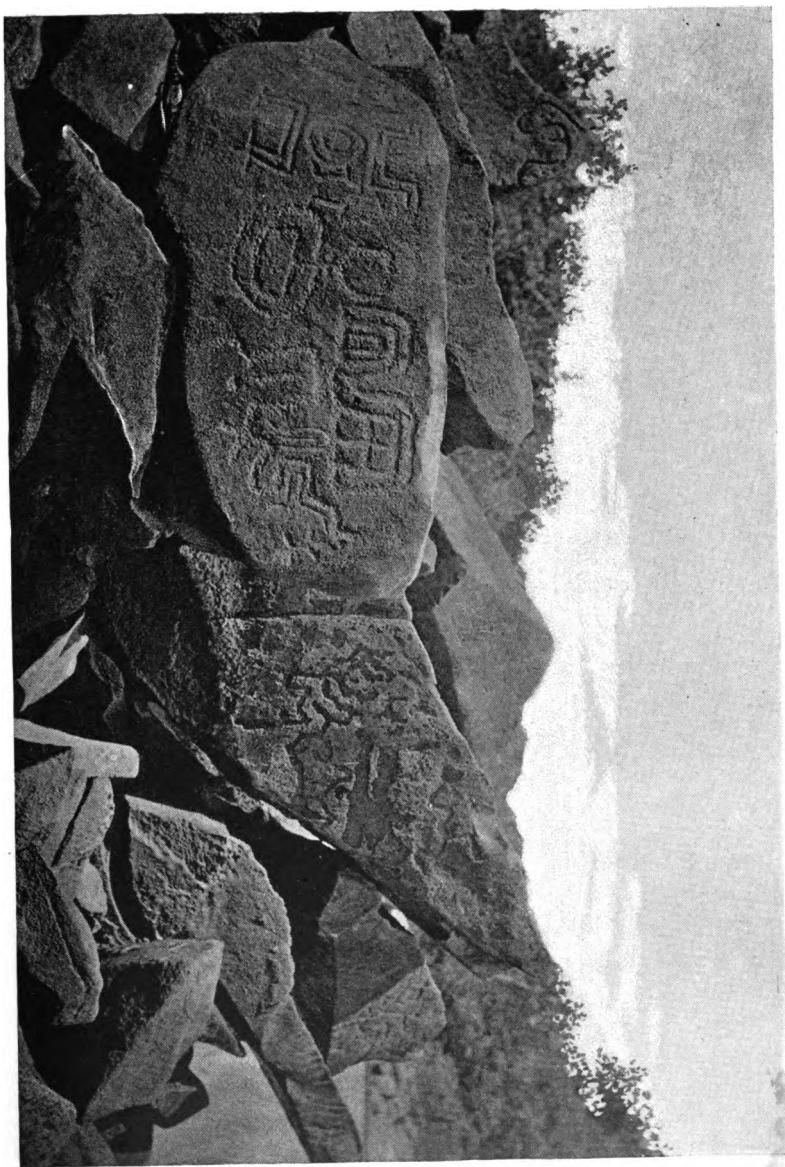
THE SAVANNAHS.

Between the Demerara and Corentyne rivers, and again far away near the Brazilian frontier, are found open grassy savannahs, only a few stunted bushes and fringes of trees along the winding course of the rivers breaking their monotony. These tracts of country resemble the llanos of Venezuela, and like them could afford pasturage for thousands of horses and cattle. The great Pirara savannah with its swamp-like Lake Amucu was considered by Sir Robert Schomburgk as having probably in some past time been an inland sea, and the site of the fabulous Lake Parima.

TIMEHRI ROCKS.

Almost the only relics of antiquity are the pictured rocks, called Timehri by the Indians. They are found in several of the larger rivers, generally in the neighbourhood of rapids or falls. For what purpose they were carved and by what

TIMEHRI ROCKS.



race is a problem which even the Indians can do nothing to solve. They are probably the work of some tribe now extinct, and perhaps commemorative. None of the aborigines of the historic period seem to have used picture-writing, while it is difficult to conceive how the carving could have been done by a people who (when the country was discovered) possessed no other tools than those of stone. The figures appear to be conventional representations of men and animals, the sun, and some other objects which cannot be identified. The Indians of the present day look on them with awe and dread, going through the ceremony of squirting pepper-juice in their eyes when passing, as if they deprecate some evil result from the sight of them.

SHELL-MOUNDS.

Remains of former Indian villages exist in several places near the coast, notably in the north-western district. These exist in the shape of mounds,—that of Waramuri being twenty-five feet in height,—proving, when excavations are made, to be composed of shells and bones, among which are portions of human skeletons, apparently relics of cannibal feasts. Being found on sand-reefs, which in past times were probably islands, these kitchen middens confirm to some extent the stories of the early voyagers, so well utilised by DeFoe in his immortal “Robinson Crusoe.” Stone implements of various patterns have been also found here, as well as in other parts of the colony, some of them being of comparatively modern date, as the stone age in Guiana lasted until the introduction of European tools, and even now may possibly continue to a certain extent in the far interior and Brazil.

SETTLEMENTS.

AREA UNDER CULTIVATION.

THE settled portion of the colony extends along the sea-coast from the west bank of the river Essequebo to the east bank of the Corentyne, a distance of about two hundred miles, as well as for ten or twelve miles up the Demerara and Berbice rivers. Besides this fringe of coast, several islands at the mouth of the Essequebo are partly under cultivation, while scattered villages and single houses are found here and there on the banks of the rivers to a considerable distance inland. Through the settled portion of the colony, which includes the towns, sugar plantations, cattle farms, and villages, runs the public road, but beyond this only water communication is available. The area under cultivation amounts to something like a hundred thousand acres, of which eighty-two thousand are sugar plantations, and the remainder provision grounds, with a very small portion in coffee and cocoa. This cultivated portion of the colony is fairly well populated, about nine-tenths of the inhabitants dwelling within its limits. The east coast of Demerara, where there is a railway twenty miles long, is the most densely inhabited; next comes the west coast, and then Essequebo and Berbice. The whole of the cultivated portion of the colony hardly equals a hundredth part of its area; it follows, therefore, that there is unlimited room for development.

POLITICAL DIVISIONS.

The old settlements of Demerara, Essequebo, and Berbice, with their original boundaries, which, however, are not defined much beyond the coast, now form counties under the same names. The first of these, Demerara, is the most important, its chief and only city, Georgetown, being also the capital of the colony. It is divided into eight parishes, two of these being conterminous one with the other, leaving really only seven divisions. This has arisen from the fact that when the parishes were laid out, both English and Scotch churches claimed and received equal consideration, with the result that the capital is in the parish of St. George according to the Anglican, and in that of St. Andrew to the Presbyterian. The county of Essequebo is divided into four parishes. The only town in this county is Bartica, which has lately become of some importance in connection with the gold industry, it being well situated as a depot and point of departure for the diggings. Berbice, with its capital, New Amsterdam, contains six parishes. With the exception of those of Georgetown and New Amsterdam, there are no local governments, the parishes having been distributed for ecclesiastical purposes only. A few villages have a semblance of something like control over their own affairs, but little good results from this, the only places where the roads and drainage are in good order being those under government supervision.

GOVERNMENT.

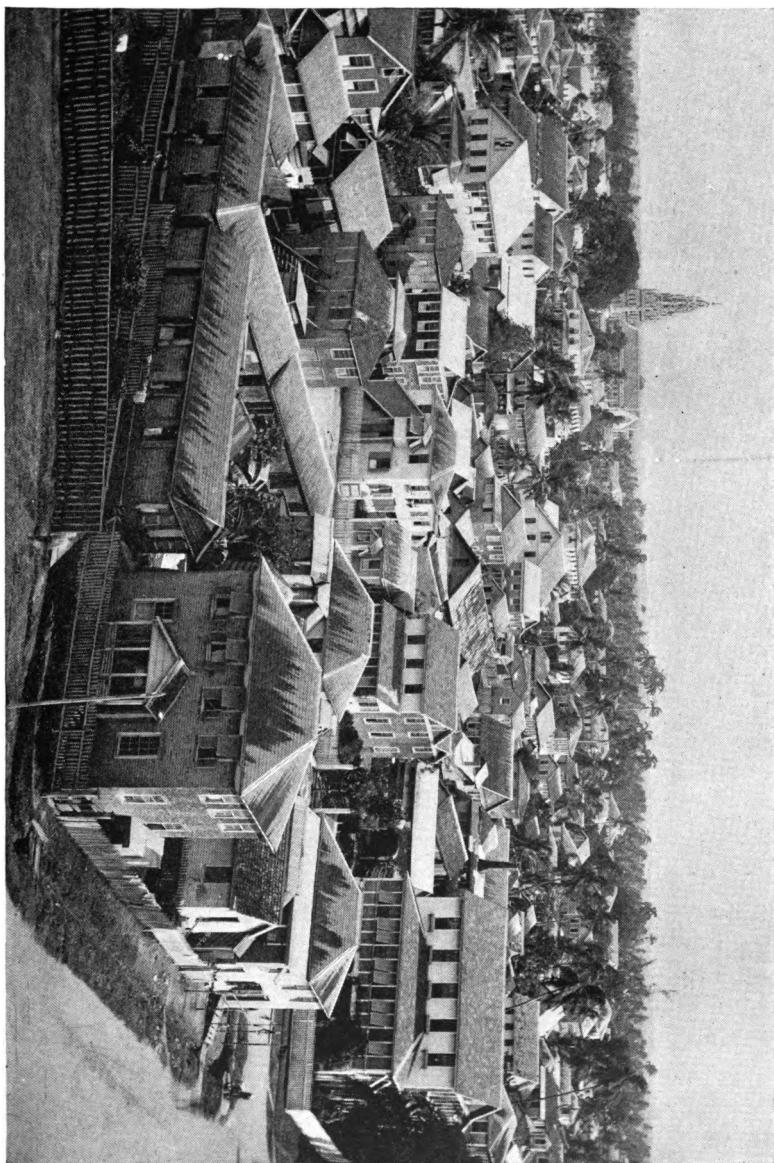
The government of the colony is administered by a governor, who has an advising executive council consisting of three officials and the same number of colonists, all appointed by the Queen.

The legislative body is the Court of Policy, consisting of eight officials, including the governor, and eight elective members, chosen from the inhabitants by a constituency of about two thousand voters qualified by property or income. The governor having a second or casting vote in case of a tie can always decide any question against the votes of the representative members; in all legislative matters, therefore, British Guiana may be considered as a crown colony. There is, however, a college of Financial Representatives, consisting of six elective members, which is adjoined to the Court of Policy for the special purpose of voting the taxes and expenditure for each year, and at this assembly, called the Combined Court, the colonists are in the majority. Justice is administered by three judges and a number of stipendiary magistrates in the several districts. The criminal laws are based on those of England, but the Roman-Dutch civil law of the old colonies survives with some slight modifications. The police is well administered, and secures to the inhabitants protection of life and property. The government grants concurrent endowment to different churches as well as to their denominational schools, and education is on a fairly sound basis.

GEORGETOWN.

Georgetown, which covers an area of twelve hundred acres, has been called the handsomest city in the West Indies. Looking from one of its towers the traveller sees a collection of houses, churches, and public buildings embowered in foliage and surrounded with palms. The trees are so numerous that the city appears as if situated in a forest, nearly every building being isolated from its neighbour and having its own collection of

GEOGETOWN.



shrubs, palms, and in some cases gigantic forest trees. A garden is more often a shrubbery or little wood, there being few of the pretty herbaceous plants so common in temperate climates. Crotons, dracænas, and other foliage plants grow into tall shrubs, while some of the flowering creepers scramble over the topmost trees.

The city stands on the eastern side of the Demerara river at its mouth, with the sea for a second frontage. From the sea-wall, which is a massive construction of stone over a mile in length, to Albouy's Town, is a distance of about two miles, through the greater part of which extends Water street, the business portion of the city. Here are most of the stores, shops, and warehouses, behind which on the river side are wharves built on piles, alongside which vessels are moored, discharging cargo or taking in the produce of the colony. Some of the stores are very large and handsome, while their stocks of commodities are varied and comprehensive. In Water street is also situated the post-office, above which are the reading-rooms and museum of the Royal Agricultural and Commercial Society. Near the museum buildings is the Tower Hotel, with good accommodation for visitors.

From Water street extend numerous other streets, which are crossed at right angles by those going in the other direction, so that the city is cut up into squares. Most of those extending north and south are very broad, those in the best district, Cummingsburg, having long canals running down the centre planted with the Victoria Regia water-lily, on either side of which are rows of ornamental trees, and beyond these the roads. Some of them are more than a hundred feet wide, and with their ornamental water, two rows of trees, and the roads on either hand, together with fine shrubberies and detached houses, are very handsome.

Main street or High street is undoubtedly the best in the city. Here are situated some of the finest public and private buildings, including the Victoria Law Courts, Town Hall, Police Magistrates' Office, Colonial Bank, Portuguese Roman Catholic Church, Presbyterian Church, Methodist Church, and a number of others. The Public Buildings, where the Court of Policy sits, and where are many of the public offices, has one of its sides towards Main street, while a little to the east the new Anglican Cathedral is being erected. There are several other fine streets, notably the Brick Dam, the two rows of houses of which constituted the whole of the town of Stabroek before the colony was captured by the British. Near the river the public buildings front on this street, while at a short distance to the east stands the finest building in the colony, the Roman Catholic Cathedral. The Brick Dam is lined with ornamental trees of different kinds, and being a mile long and perfectly straight, there results as fine a vista as can be seen anywhere. At its eastern end is an avenue of royal palms, which gives a finish to the back view, while in front the busy wharf and the market, with vessels on the river, make an interesting contrast.

There is no want of drives and promenades apart from the tree-lined streets. Among others are the Botanical Gardens at the back of the town, the Promenade Gardens near its centre, the Sea Wall, and the Le Repentir cemetery. These are crowded on Sundays and holidays with a motley throng of all classes, whites, negroes, Chinese, and East Indians, all of whom like to be well-dressed and drive in carriages if they can afford it. A band of music plays at each of the three first of these public resorts once a week in the afternoon, and then the number of promenaders is much increased.

Tram-cars run through several of the streets and cabs are

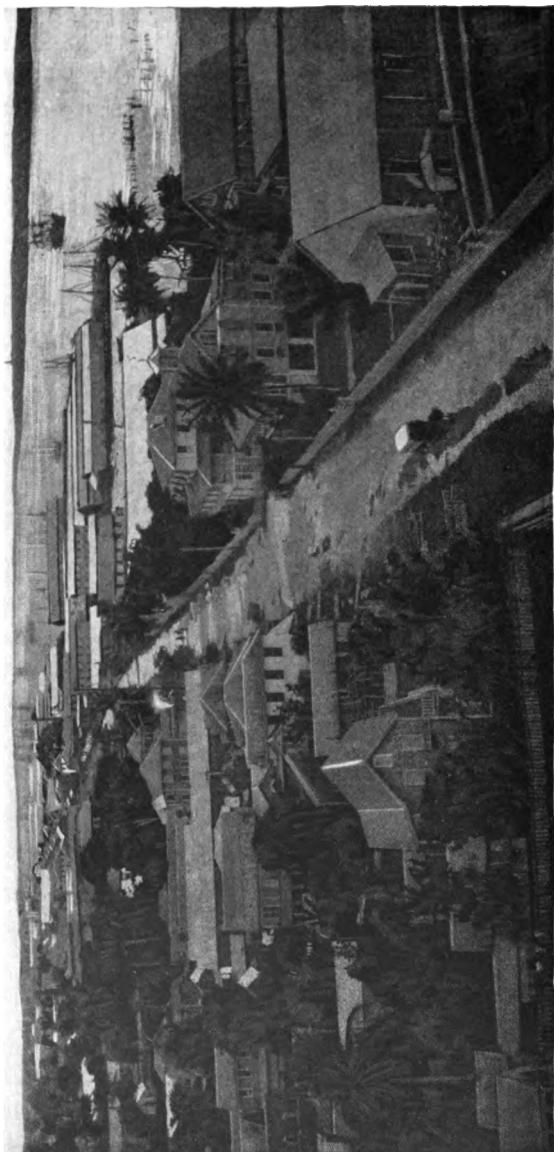
numerous, while communication by telephone is common throughout the whole city. The water-supply for general purposes is brought from savannahs and creeks about twenty miles off through the Lamaha canal. By means of a pumping-engine it is forced under pressure to all parts of the city, and is invaluable in case of fire. This water, however, being of the colour of weak coffee from holding vegetable matter in solution, cannot be used for drinking, cooking, or clothes-washing. Every house is, therefore, provided with a large rain-water vat or tank, and as there is little smoke or dust, the water obtained in this way is very pure. The city is well lighted, partly by gas, and in the remainder, about a third of the streets, by electric light. The drainage is well kept up, all sewers being open, while several pumping-engines are auxiliaries to the ordinary flood-gates for carrying off extraordinary rainfalls.

The affairs of the municipality are well managed by a mayor and town council, who usually impose a tax of two per cent. per annum on the appraised value of private property. The real property, *i.e.*, buildings and lots, as valued by the municipal authorities, amounts to \$6,697,625, besides which there are government buildings, churches, school-houses, a convent, and the Museum buildings untaxed, the value of which would be at least another million. The lots number about 2,130, and vary in length from 75 to 250 feet, and breadth from 60 to 100 feet. Europeans and Creoles, other than Portuguese, possess property valued at \$4,611,575, Portuguese \$1,938,370, East Indians \$101,930, and Chinese \$45,750.

With such a large portion of the city—about forty-four miles—laid out in streets, it naturally follows that the roads are expensive. Being laid on alluvial clay, hardly more firm than a

bog, it is difficult to keep them in order; nevertheless they are very rarely worn into ruts or particularly muddy. The heavy rains keep them very clean and in fact wash away the road metal to an enormous extent, the sides being banked with sand after a long downpour. The road materials commonly used are granite and burnt clay with broken shell from the sea-shore. Granite is the most durable, but in the absence of a foundation is rarely level, while the burnt clay on the contrary makes a smooth, even road, pleasant to the eye under the noonday glare, as well as easy and comfortable to both man and beast. About thirty-four miles of streets are laid with granite and the remainder with burnt clay and shell. The quantity of road material used annually amounts to nearly ten thousand tons, the cost per mile being about \$670. Granite is the most expensive, costing \$3 per ton and about 50 cents for breaking, while burnt clay is \$1.60 per cubic yard and broken shell or caddy 15 cents per barrel. There are four markets in different parts of the city, the principal being that of Stabroek, which stands near the busiest part of Water street, with a wharf on the river. It is well supplied with meat, fish, vegetables, and fruit, and thronged with a motley crowd of all races and nationalities. The building is of iron and well fitted for its purpose, being capable of accommodating a much larger number of stalls than are at present erected. On Fridays and Saturdays when the tide ebbs the river is dotted with bateaux coming to market with the produce of the grounds belonging to negroes, in the canals and on the banks of the Demerara river. At certain seasons these craft will be laden with mangoes, which take the place of the watermelon in the Southern States, being everywhere in the hands of the negroes at these times, when they are sold so cheap that twenty or thirty may be obtained

WATER STREET, GEORGETOWN, LOOKING SOUTH.



for a penny. Pineapples, oranges, bananas, guavas, sapodillas, and a number of other fruit are obtainable at all seasons, being only more or less plentiful, while the staff of life of the negro, the plantain, is always present in the markets in enormous quantities. Other vegetables, such as yams, sweet potatoes, tannias, and eddoes, are always obtainable, while meat is plentiful and good fish nearly always to be had, although rather high in price.

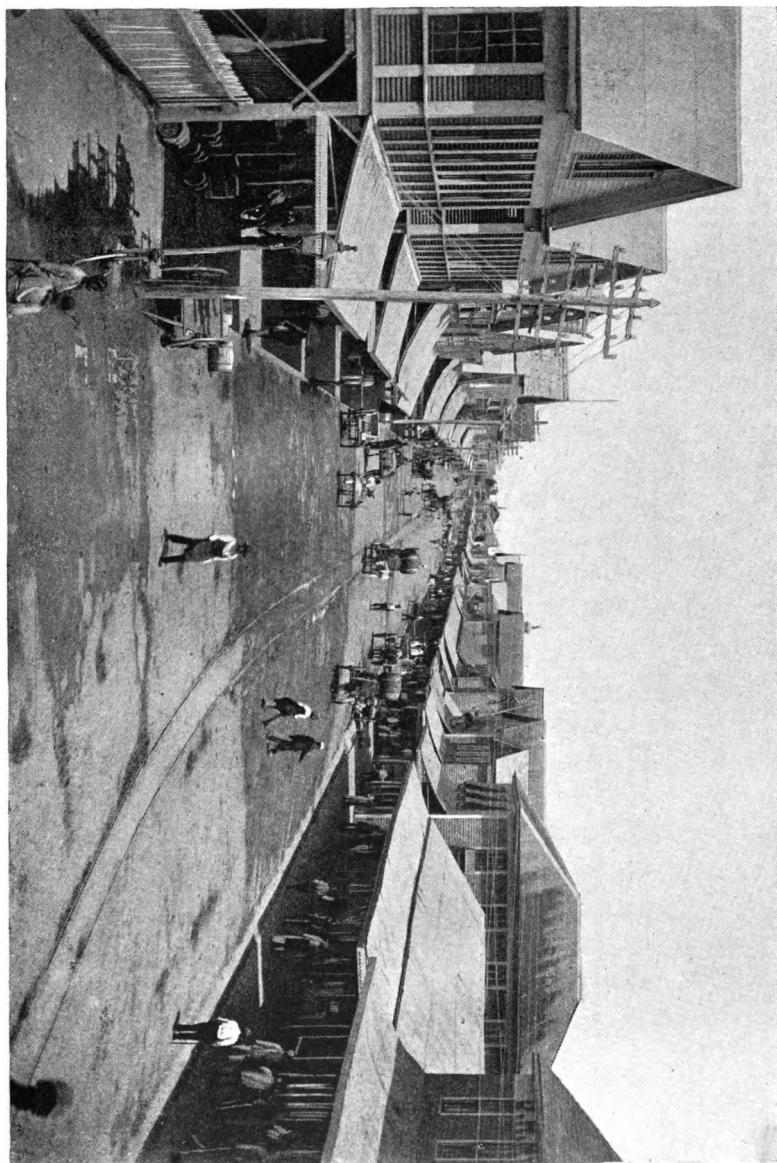
On some of the public wharves, and especially in the Charles-town district, where the timber trade is mostly carried on, and where there are several saw-mills, punts and bateaux are continually unloading firewood and charcoal. These are piled with stocks of both articles until they appear quite top-heavy and dangerous, but as they float with the tide and have only to be brought down the quiet river, it rarely happens that an accident occurs. Here and there on a mud-flat may be seen the characteristic floating raft of heavy timber, supported in the centre by an empty punt in which an Indian family lives for the week or two the raft is slowly floating down the stream. With its thatched roof and hammocks, and the various members of the family lounging about, the picture is very interesting to a stranger, as it resembles the primitive life of the forest.

Water street is thronged by a crowd of all nationalities and races, the negro and East Indian predominating, as might be expected. In the early morning the servant girls are to be seen coming from market with small loads, or followed by coolies with large baskets on their heads containing miscellaneous assortments of meat, fruit, and vegetables. Here a cook with a plate of meat nicely balanced above her Madras handkerchief is talking to another with a cup and saucer perched in a similar

manner, the two shouting at the top of their voices and waving their hands in every direction, without causing even a vibration to the articles so nicely balanced. The East Indian is well represented by families from the country, the father often carrying a child on his shoulder, while the mother, decked with jewels and a wonderful arrangement of colours in her dress, walks beside a miniature resemblance of herself—a little woman, although she may be no more than seven or eight years old. To an artist the coolie woman is a study of colour, even the most gaudy tints being combined in a manner which seems entirely fit and suitable. Her husband also appears to have a natural taste in draping himself, his babba or loin cloth and his turban being both worn round him in almost inimitable folds. Here and there is seen a busy Chinaman, his loose trowsers and blouse seeming entirely suited to the tropics. Europeans of all nationalities are employed as clerks in the stores, or engaged in their different vocations, while white, coloured, and black ladies are shopping at the dry-goods stores.

On the different wharves negro porters are busy loading or unloading the steamers or the smart American schooners which lie alongside, while a gang of women may be seen with loads on their heads which they can hardly lift. Out in the stream larger vessels are anchored, their sides swarming with lighters filled with bags of rice, coal, and other merchandise, or unloading casks of molasses, puncheons of rum, or bags of sugar. Across the river steams the ferry-boat with passengers for the west coast, while morning and evening the colonial steamers take away or bring back a good number to or from Essequebo, Berbice, the upper Demerara, and, more than all, the gold-diggings.

WATER STREET, GEORGETOWN, LOOKING NORTH.



Business commences early in the morning, almost at sunrise, slackens towards the afternoon, and is finished between four and five o'clock, after which Water street becomes almost deserted. The other parts of the city then become alive with carriages and pedestrians, taking their afternoon drive or walk to the Sea Wall and Botanical Gardens, or paying visits. On moonlight nights the Sea Wall is thronged with people of all classes, while the negroes sit on the parapets of the roads or lounge about the bridges until the small hours of the morning. There is a tendency to inactivity during the day, while night is enlivened by noisy bands, negro and coolie drums, and the less discordant Portuguese guitar or accordion. Evening entertainments are given at either the Assembly Rooms or Town Hall, the former being a large room above the Georgetown Club and most suitable for balls, while the latter is smaller and contains a fine organ.

Among the local institutions are two mutual fire insurance companies, the first and the oldest, the "Hand in Hand," having lately founded a life section. Both of these are prospering, and are of great assistance to the colony by lowering the cost of assurance, which is very high on account of the risk of fire from the houses being built of wood. Owing to a well-disciplined fire brigade in connection with the police department and a plentiful water-supply no serious fires have taken place for some years, but formerly large and important sections of Water street have been destroyed, entailing enormous losses to the mercantile section of the community.

Among the useful institutions of Georgetown, perhaps the most important socially is the Royal Agricultural and Commercial Society, a semi-scientific and literary institution supported by

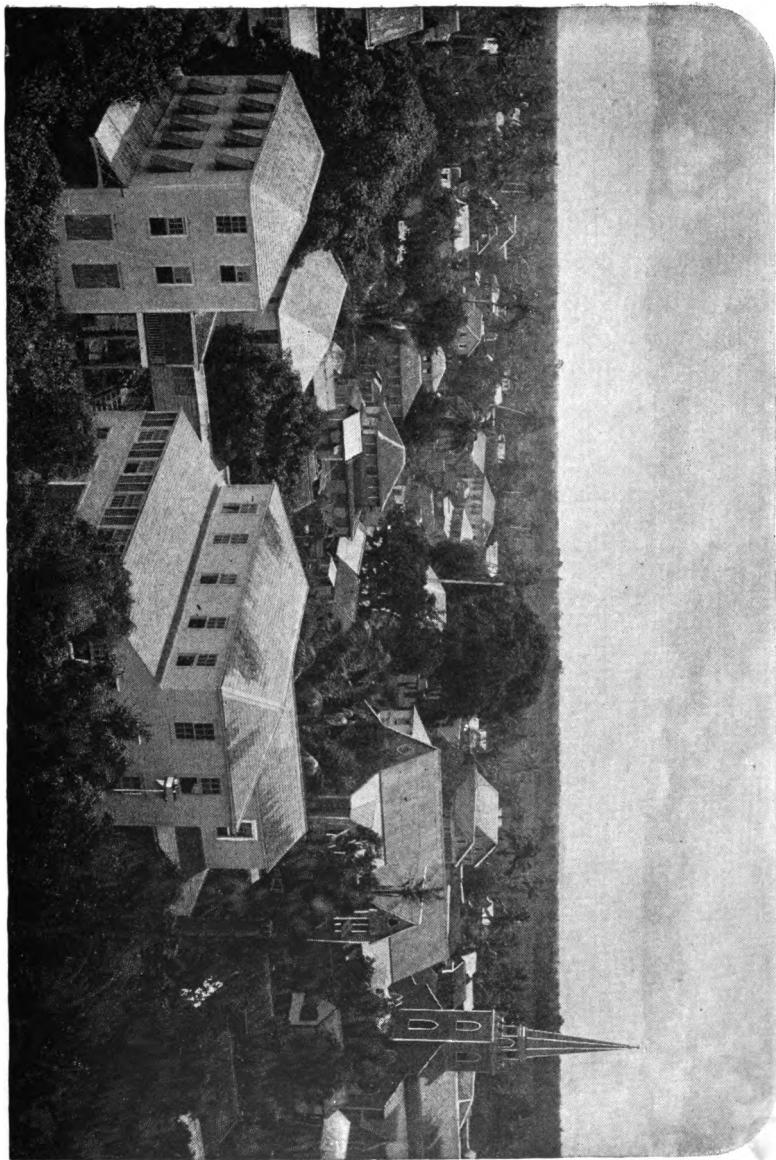
the subscriptions of its members, and assisted, as far as its museum only is concerned, by the government. There being no public library, that of the society, consisting of over seventeen thousand volumes, is a great convenience, while the cool and airy reading-room, its tables covered with the best magazines and newspapers, has been often highly praised by visitors. Strangers are admitted into the reading-room on the introduction of a member, but the museum is quite free.

There is a first-class club, two banks, a Chamber of Commerce, an Institute of Mines and Forests, and a number of other associations of various kinds with headquarters in the city. The press is represented by one daily, a bi-weekly, a tri-weekly, and three weekly papers, as well as a government "Official Gazette." An annual directory is published by the government printer, who also prepares the official publications and sells the annual Blue Book. The "Argosy Press" publishes "Timehri," the half-yearly journal of the Royal Agricultural and Commercial Society, as well as a number of local works of importance.

NEW AMSTERDAM.

This little town, the capital of Berbice, is, like Georgetown, embowered in foliage, and covers an area of three hundred and seventeen acres. It stands on a point near the junction of the rivers Berbice and Canje, on the eastern shore of the former, and has several good wide streets and a few churches and other public buildings. Almost a miniature copy of Georgetown, it differs only in being very quiet, little business being done either in the principal street or on its wharves. Anthony Trollope certainly exaggerated a little when he said that "three persons in the street constitute a crowd, and five collected for any purpose

NEW AMSTERDAM.



would form a goodly club ; " but the town often leaves this impression on a stranger. Near the town is the Colonial Lunatic Asylum, and at the back is a recreation ground called the Savannah. There is a good hotel, a reading society, and a library in the town, and a newspaper is issued twice a week.

THE VILLAGES.

After the emancipation, the negroes in various parts of the colony combined together and bought some of the plantations, which the ruined owners were glad to sell at low prices as the alternative to abandoning them altogether. The freedmen were the better able to do this as the competition for their services raised wages to such an extent that, with few wants, those who were industrious and not reckless in spending their money were bound to save. Many had also accumulated large sums from the sale of provisions and live stock raised on their plots of ground while still slaves, so that altogether the negro population were more prosperous than at any other time before or since. A very large sum was spent in this way, the aggregate from 1839 to 1845 being over half a million dollars, and on account of their savings being in silver coin the purchasers had sometimes to take it to the banks in handbarrows. Besides this the cost of the cottages which were soon erected may be estimated at another quarter of a million—an enormous amount for a body of peasantry to raise in a few years. Although the first village, Williamstown, was established in Essequebo, the east coast of Demerara soon became the most popular, as it remains to-day. Here a village was founded every two or three miles, these alternating with the sugar estates, on which the villagers laboured for a few days when they felt inclined. Plaisance is now the

most populous village in this district, containing 4,705 inhabitants, several churches, and some well-kept streets. The nucleus of this village was 300 acres, bought by 88 labourers for \$39,000. Others in the same district are almost as important. Buxton and Friendship, which adjoin each other, having respectively 3,116 and 2,123, while Beterverwagting has 2,147. Friendship and Buxton, each consisting of five hundred acres, were originally bought for \$50,000 and \$80,000 respectively, while Beterverwagting cost \$22,000. Other important villages are found in the several districts, the most notable being Agricola on the east bank of the Demerara river with 2,080, and Bagotville on the west bank with 2,403. The larger villages, which number eighteen, and are under government control, contain buildings valued for taxation at over a million dollars.

The original purchasers of these villages found great difficulty in keeping up the drainage, which in most cases was in first-rate order when the plantations changed hands. Want of control and the absence of any bond of union among the negroes soon led to a most unsanitary state of affairs, the villages being often little better than pestiferous swamps and the roads utterly impassable without wading through mud and water. This led to government interference and the appointment of an inspector of villages, under whose superintendence many improvements have been accomplished. Great objections were made by the villagers to the consequent taxes imposed, especially when their little properties were sold; but these have become less and less within the last few years, being now heard only when a village happens to be flooded in extraordinary wet weather.

Twenty to thirty years ago the most striking difference was observable between the sound, commodious dwellings and



ROADSIDE ON A SUGAR PLANTATION.

chapels built by the emancipated slaves, and the little stilted huts of their descendants, who could not even keep their fathers' houses in good order by timely repairs. Now, however, a better state of things can be seen, and it may reasonably be expected that the villages of British Guiana will soon become centres of industrial populations of a superior class. Latterly some of the best labourers from the villages have been attracted to the gold-diggings, with the result that the cultivation of the plantain, which is their main industry, has fallen off considerably, and this, the "staff of life" to the negro, has risen greatly in price.

THE PLANTATIONS.

Since about the year 1820, when the cultivation of cotton and coffee became less and less, sugar has been the staple product of the colony. The annual export amounts to over a hundred thousand tons, that of 1891 being one hundred and five thousand four hundred and eighty-three tons and seventeen hundred weight. The by-products of the sugar manufacturer are rum and molasses, the exports of which in the same year were respectively twenty thousand three hundred and seventy-three puncheons and thirteen thousand nine hundred and eighty-nine casks. The plantations are oblong in shape, always fronting the sea-shore or bank of a river, where the front dam is situated, behind which comes the public road. The façade varies in width according to the size of the plantations, some of which have absorbed two to four of the original grants. These were one hundred to two hundred Dutch roods (a quarter to a half mile) in width by seven hundred and fifty roods in depth, with a right to further concessions of second and third depths. One of the principal estates situated on the east coast of Demerara is

two hundred rods in façade by the full depth of two thousand two hundred and fifty rods, *i.e.*, about half a mile wide by five and a half deep. In front is the sea-shore, to protect which mangrove and courida bushes are allowed to grow, inside of which a dam of earth is thrown up, the excavation alongside forming a drain for carrying off any salt water that may come over during high tides. At a short distance within the front dam comes the public road, which extends along the coast, and which is kept up at the expense of the estate owner, as far as it extends through his property. Beyond the road, which with its two canals at the sides forms a second dam, comes about a mile of grassy land which is used for pasturing cattle, horses, and mules belonging to the plantation. Then comes the railway, near which is the draining engine and kokers or sluices of the cane-fields that commence immediately behind this third defence. Beyond a mile or so of pale-green sugar-cane come the plantation buildings, which consist of the sugar factory, manager's residence, house for the overseers, hospital, school-house, one or two shops, and the labourers' cottages, which last are very numerous. This group of buildings form, to all intents and purposes, a self-contained village, the manager's house, standing in the midst of a fine garden, representing the mansion of the squire, while round him live as many mechanics and labourers as are necessary to carry on the cultivation and factory. Beyond this village come interminable fields of canes as far as the cultivation extends, where a back dam protects it from floods. The plantation under review had some few years ago nine hundred and thirty-five acres, or exactly half its area planted with canes, and produced over fifteen hundred hogsheads of sugar annually. The remaining portion comprised three hundred and

SUGAR-CANE CULTIVATION.



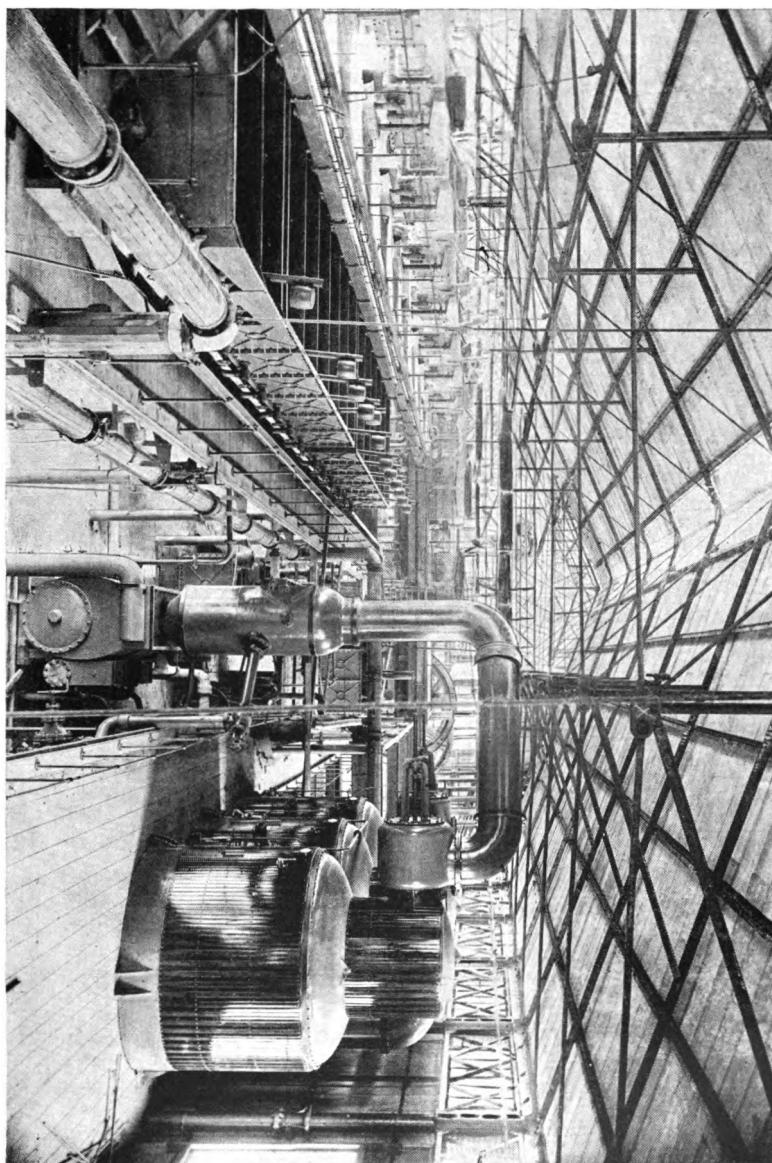
fifty-eight acres in pasture and bush, one hundred and sixty-two acres not then empoldered, one hundred and ninety-eight acres in dams, parapets, and trenches, one hundred and sixty-two acres of swamp in front, above low-water mark, but outside the sea-dam, and fifty-three acres covered by the buildings, garden, public road, railway, etc. From the number of acres in dams and trenches it may be seen how important this part of the economy of a plantation must be. On every hand is an earthen dam with corresponding canals, these latter being cut off from outside by flood-gates, so that no water from sea or swamp can penetrate, while the rainfall of the plantation itself is run off through the sluices at low water, or in very heavy weather, by means of the draining engine. These draining canals are connected with other trenches between every field, and these again with the ditches of each bed of canes. With such a perfect system of canals it has naturally followed that sugar-canies are brought to the factory by water, and to complete the communication a middle dam and two canals are carried through the centre of the plantation to the factory and thence up to the railway, or to the shipping-trench, where the droghers take the produce to port by sea. The population on the sugar estates varies according to their size and area under cultivation, some of the principal supporting over two thousand persons. The largest number of people enumerated as belonging to any one plantation in 1891 was two thousand seven hundred and thirty-five at Plantation Lusignan, on the east coast of Demerara.

Sugar cultivation in British Guiana is carried on almost entirely by manual labour. The fields being cut up into small raised beds by cross drains, there is no level surface where the plough can be utilised ; it follows, therefore, that digging is done

with the shovel. The land having been dug over, the tops of ripe canes, which are cut off in preparing them for the mill, are planted in rows three or four feet apart and about a foot from each other, these soon striking root from the lower joints and producing new plants. In about a year the whole field becomes an impenetrable jungle, except at intervals, where the wider ditches break its continuity. The plants stand at a level of six to eight feet above the ground, and when they flower, two or three feet higher, being of a pleasant yellow-green. A field of canes in flower has a very striking appearance, the fluffy panicles being graceful and feathery and changing the colour of the cane-field from green to white. Soon after flowering the canes are cut by hand and taken to the mill in punts drawn by mules.

Most of the factories are provided with the latest improvements in sugar machinery, very few in the colony now making muscovado or common process sugar. Under the old system several weeks or even months often elapsed from the time of boiling the sugar until it could be drained and packed; but with the aid of the vacuum pan and centrifugals canes can be ground, the juice boiled and crystallised, and the finished product shipped within a few hours. Demerara crystals are well known in the sugar markets of the world, and it is claimed that they are of a very superior quality and rich flavour. Rum, which is made from the skimmings of the juice taken off when boiling, and molasses are by-products of the manufacture of sugar, and are also well known. In preparing these the greatest care is necessary, almost every plantation having the occasional services of both a chemist and engineer to advise their managers in their several departments.

INTERIOR OF A SUGAR FACTORY.





CUTTING THE CANES.



A MIXED GROUP—CHINESE, NEGROES, AND EAST INDIANS.

INHABITANTS.

POPULATION.

ACCORDING to the census of 1891, the total population amounted to 288,328, being an increase during the previous decade of 26,142, or a little over ten per cent. The county of Demerara comes first with 173,898. Essequebo second with 53,254, while Berbice was last with 51,176, the balance of 10,000 being the estimated number of aborigines in the far interior. The capital, Georgetown, and the town of New Amsterdam, contained respectively 53,176 and 8,903, making the total urban population 62,079, while the inhabitants of the villages numbered 125,757 and those of the plantations 90,492. Nowhere, perhaps, in such a small community is the population so much mixed, every race except the Polynesian being represented. Among the Europeans, Portuguese from Maderia head the list with 12,166, the small total of 4,558, including whites of the other nationalities, every country in Europe being represented. Asia has also contributed largely with 105,465 East Indians, 3,433 Chinese, and one or two Arabs and Syrians. The largest total is that of the negro, 115,588, only 3,433 of whom, however, are Africans. The aboriginal Indians within the boundaries of the settlements number 7,463, to which must be added the estimate of 10,000 for those who were beyond the reach of the enumerators. The balance of 29,376 is made up of a few returns where

the race was not stated, and the mixed races, the greater number of them being the offspring of black and white, of various shades, while mixtures of native Indian and negro, white and East Indian, and even negro and Chinese, are not wanting. The population of the villages and plantations comprised 102,848 agricultural labourers, 80,004 of these being East Indian coolies, and the remainder proprietors of small lots of land, shopkeepers, and mechanics. Working in the forest as gold-diggers and wood-cutters were 6,325, most of these being negroes.

THE PORTUGUESE.

These were originally immigrants from Madeira, introduced as agricultural labourers from 1835 to 1840, who soon left the plantations and found openings as petty traders, pedlers, and small shopkeepers. Being industrious and economical they succeeded so well that now almost all the provision shops in the colony are in their hands, while a rum shop not owned by a Portuguese is a rarity. By their means the poorer classes are able to procure small quantities of almost every kind of grocery and article of food, which the more independent store-keeper will only sell in quantity. They are particularly industrious and thrifty and have now become of considerable importance, owning real property in all parts of the colony, the best houses in every village belonging to them. They are also the only market gardeners, while in every trade they are conspicuous for their energy and economy.

THE NEGROES.

This race, with the coloured people, many of whom have but little admixture of European blood, forms more than half the population of the colony. They are the descendants of the

GROUP OF EAST INDIANS.



slaves who were emancipated in 1838, and the few who had been manumitted before at various times. Most of them were agricultural labourers, but unfortunately labour on the plantations had become so distasteful to them, that almost immediately after they became free, great difficulty in carrying on the cultivation was experienced. It followed that many of the old settlers were ruined, their plantations being in some cases abandoned, and in others sold to the more industrious negroes, who had been able to command high wages for several years. The acquiring of plantations which were laid out in villages tended more and more to alienate the black population from labour on the sugar estates, so that the planters who remained had to make strenuous efforts to procure labourers from other countries.. This put the negro farther in the background as an agricultural labourer, so that to-day only about a sixth of their number are engaged in this occupation, and these by no means regularly. They are, however, found in almost every trade and profession, generally preferring situations as clerks or shopmen, schoolmasters, dispensers, and other light employment. A few have succeeded very well in the professions, especially that of the law, and one of them is a popular medical practitioner.

THE HINDOO COOLIES.

These people, as far as number is concerned, are next in importance to the negroes. With few exceptions they are agricultural labourers—the only persons to be depended upon for the cultivation of sugar. Not so strong as the negro, they are less able to do the heavy work of a plantation, but being more willing and regular in their habits, they have become

the mainstay of the colony. Natives of the East Indies, they are brought to the colony at considerable expense, to the number of about five thousand annually. A free passage is given under an arrangement for five years' industrial service at the current rate of wages, after which, and five years' residence, they are entitled to another free passage back to India. Rather less than half the number avail themselves of this privilege, hardly any one leaving until he has managed to save enough money to establish himself in his native land. In 1891 three vessels took away two thousand one hundred and fifty-one returned coolies, including women and children, and the cash and jewelry in their possession amounted to over \$134,000. This would represent an average saving of about \$92 for each person, and as many of them were women and children it may be put down at something like \$300 for each man. A considerable number of them remain in the colony, enjoying fair positions as horse and cattle owners and small shopkeepers.

THE CHINESE.

These were brought here as agricultural labourers on similar terms to those of the Hindoo coolie, but without the obligation of a back passage. The planters differ in opinion as to their suitability for plantation work, but there is no doubt as to their doing well in many other industries. They are the only people in the colony able to compete with the Portuguese as small shopkeepers, while as settlers they seem to be almost perfect. Upwards of twenty years ago, grants of land in the Camouni creek were made to a number of them, and a settlement established under the name of Hopetown. Here is now a collection of homesteads, with good houses, proper drainage, and clean



GROUP OF NATIVE INDIANS.

cultivation of rice and ground provisions. Their most striking characteristic is cleanliness; everything about them being free from the filth which so disfigures the surroundings of other races. Even the pig-styes are washed twice a day, and may be inspected with pleasure instead of disgust. As wood-cutters and charcoal burners, they also show considerable ingenuity and that energy and carefulness so characteristic of the race. Unlike the negro, the Chinaman looks ahead, and saves himself a great deal of future trouble by a little labour at the right time.

THE NATIVE INDIANS.

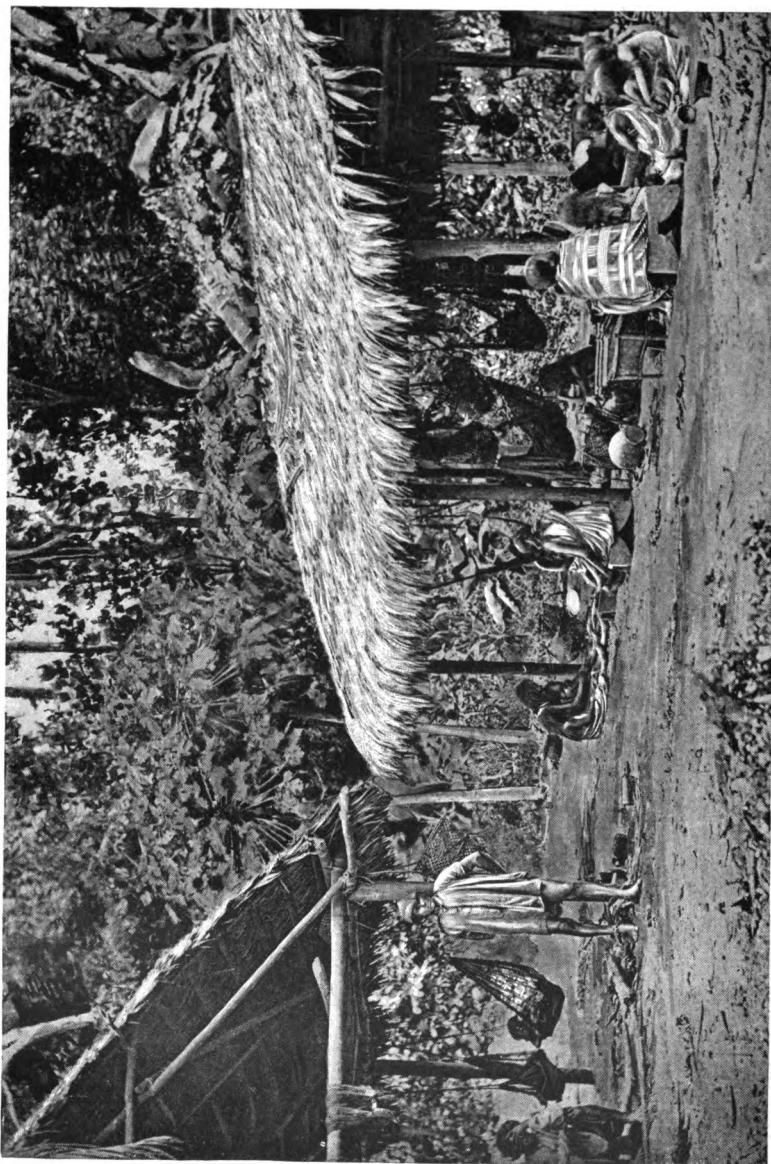
These people, as far as they have been enumerated by the census, inhabit the banks of the rivers and creeks, being mostly concerned in the wood-cutting industry. Several churches have mission stations, around which gather small communities of clothed aborigines, who are simple, good-natured people, their only fault being a taste for rum. But beyond these there are wild tribes of naked Indians, who live in the same districts, and to all intents and purposes have the same manners and customs as their fore-fathers had when America was discovered. These are put down at ten thousand, but as they are retiring in their nature, and wander over a tract of country which includes portions of the other Guianas and Brazil, it is impossible to get a clear idea of their number. At the present day they are peaceful and inoffensive, and a great help to the traveller from their knowledge of the trackless forest. The forest Indian seems to be as much at home in the "high woods" as any of the wild animals. The calm and stillness of the dense shades have influenced him in such a manner that he seems to be in perfect harmony with his surroundings. His leaf-covered shed or benab seems natural to

the bank of the river or creek, while he himself glides through the forest with swift, noiseless footsteps. His eyes and ears are open, and nothing connected with his pursuit escapes him, and while perhaps his white companion sees no sign of life whatever, the Indian marks traces of quadrupeds and birds in every direction. In his canoe he is also quite at home, floating or paddling as if himself and the frail craft were one.

His forest home is built of a few posts, thatched with the leaves of the troolie palm, beneath which he hangs the indispensable hammock, which is both chair and bed, and the only real article of furniture. In the centre is a fireplace, above which stands a barbecue, where every piece of meat or fish is laid to be smoked to prevent it from spoiling. Near the fire are a few earthen cooking utensils and notably that in which the "pepper pot" is prepared. From the poisonous juice of the cassava, rendered innocuous by evaporation, is prepared a dark brown molasses-like extract called cassareep, which with fresh peppers (*capsicums*) forms the basis of a most delicious stew. Into this preparation every kind of flesh, fowl, and fish that is not eaten at once is placed, and the pot set on the fire, with the result that the meat is preserved for an indefinite period.

The head of the family and his grown-up sons supply the household with meat, while the women prepare the bread, which is made from the grated root of the cassava. The pulp, having been squeezed dry in what is called the mattapee, is baked on a flat dish of iron to form a kind of pancake. The cassava field is generally situated at some distance from the benab, and is a clearing in the forest made by the men, who chop down the trees, and when they have become dry, partially burn them. The result is an ugly clearing with charred trunks lying

INDIANS AT HOME.



in all directions, between which the women plant cuttings of the cassava plant. In the course of the ten months or a year which the roots take to mature, weeds overrun and almost choke the plants, but these are kept under to a certain extent by an occasional day's labour of the women and children. A few other plants are cultivated in the same clearing, such as yams, sweet potatoes, and the necessary capsicums for the pepper pot, but the staff of life is always cassava bread. Like most other uncivilised races the Indians are improvident, and often suffer from want when the season is unfavourable and the crop fails. In such cases many shifts are resorted to, seeds and wild fruit of the poorest descriptions being eaten to ward off starvation.

Several tribes, distinguished by differences in physique, color of skin, language, and customs, inhabit different parts of the colony. The old guardian of the coast — the Carib — is now almost extinct, while the Warrow, Arawak, and Acawois are fast losing their ancient manners and customs and becoming half-civilised. These four tribes are comprised in the seven thousand enumerated by the census, the estimate of ten thousand referring to the Macusis, Arecunas, Wapisianos, and others inhabiting the far interior. These latter still use tattoo marks and paint their faces on special occasions, although it does not appear that any intertribal disputes take place now to make them seriously put on the war-paint. Their ordinary dress consists of a strip of blue cloth for the men and a pretty bead apron for the women ; but at their dances and other festivals the men wear feather crowns, necklaces of peccaries' teeth, and rattling strings of seeds and beetles' wings around the body and limbs, while the skin is grotesquely painted with red (*anatto*), blue (*lana*), purple (*Bignonia Chica*), and white (*pipe clay*).

The Indian settlements rarely have more than a few families and can hardly be dignified with the name of villages, while the old system of choosing a chief seems to be almost extinct in these peaceful times. Being of a retiring nature the wild Indian is receding more and more from contact with the settlers, even the last two or three years making a difference in this respect as the gold prospector finds his way farther into the interior. The death-rate among their children is very high, and there is every reason to believe that they are destined to become extinct in the near future.

COMMUNICATION.

COMMUNICATION WITH OTHER COUNTRIES.

B RITISH GUIANA may be classed with the West Indies rather than the South American Republics as far as its connection with the rest of the world is concerned. Its regular fortnightly mail service is performed by the Royal Mail Company, of which the port of Georgetown is a terminus, the intercolonial steamers bringing the mails direct from Barbados. Besides this the boats of the French Compagnie Generale Transatlantique call monthly on their way to Cayenne, and the Dutch Mail does the same when going to Surinam. The colony is reached from England in fourteen days by the Royal Mail steamers, and from the United States in about the same time. There is no regular steamer communication with the United States, but the mails are brought to Barbados, from whence they are conveyed by the British Mail steamers. Several lines of freight steamers from London and other British ports perform the voyage in eighteen to twenty days, while the swift American schooners bring provisions to the colony in about the same time. Every fourth week, also, one of a Canadian line of steamers calls at the port, bringing the colony's mails from the Dominion in three weeks after calling at several of the West India Islands. By means of these and the West India and Panama Telegraph Company, the

colony enjoys regular communication with other countries and is not so isolated as would appear from its position.

EXPORTS AND IMPORTS.

The principal export of the colony is sugar, of which over 105,000, tons was shipped in 1891, more than half of which went to the United States. The value of this and the other products of the plantations, rum and molasses, may be estimated at over \$9,000,000. Next in importance comes gold, of which 101,297 ounces, valued at \$1,801,389, were exported in 1891, this being an increase of about two-fifths on the output of the previous year. The native timber is largely used in the colony, but besides this 324,036 feet were shipped the same year, besides other forest products in the shape of shingles, charcoal, ballata or gutta-percha, and gums. Small quantities of cocoa and coffee and over 5,000 pounds of isinglass complete the list, which could be indefinitely increased by additions to the capital and labour of the colony. The principal imports comprise manufactures from the United Kingdom, provisions from the United States and Canada, and rice from India.

POR TS.

The two ports of Georgetown and New Amsterdam are within the respective rivers of Demerara and Berbice. On account of the bars, vessels drawing more than twenty feet cannot enter the rivers, while those of even lighter draught have to wait for high water. Within the rivers the anchorages are secure and most vessels can come alongside the wharves. Both ports are healthy, Major Walthall, late U.S. Consul at Georgetown, stating that

during the three years he had held office there had been an average of sixty or seventy American seamen always in the Demerara river, yet only four had died, and none of these from any disease contracted in the colony. He had therefore come to the conclusion that Georgetown was one of the healthiest ports in the world.

INTERNAL COMMUNICATION.

With so many rivers it has naturally followed that communication is mostly carried on by water. A line of steamers subsidised by the Government provides daily trips from Georgetown to Essequebo and Bartica, the depot for the principal gold-fields, while three times a week a steamer proceeds to Berbice, and twice a week up the Demerara and Berbice rivers; fortnightly communication is also provided for Morawhanna, the capital of the North-West District. The Demerara, Essequebo, and Berbice rivers are provided with ferry steamers, while numbers of sailing-boats give accommodation for travellers in almost every direction. A short railway extends from Georgetown to Mahaica on the east coast, a distance of about twenty miles, and is a great convenience to this the most populous district of the colony. A public road also runs along the whole coast-line from the Corentyne river to the extreme limit of cultivation in Essequebo, with short extensions up the principal rivers, alongside which there is a line of telegraph. The postal communication is regular, and if not so quick as in some other countries, can easily be supplemented by the telegraph.

CLIMATE AND METEOROLOGY.

THE climate of the colony is on the whole a very pleasant one. The variations of the thermometer are slight, it ranging generally from 76° to 86°, even the night showing little difference except the absence of the intense glare of the sun. On the coast the sea-breezes blow into the open houses and make them pleasant even during the greatest heat, while the heavy rains cool the earth and make the vegetation so luxuriant that it hardly ever puts on that arid appearance which adds so much to the feeling of tropical heat. The rainfall is heavy, varying very much in different years, sometimes being as much as one hundred and thirty and at others as low as seventy inches. It is generally considered that the year is divided into two rainy and two dry seasons, but one of each of these is often merged into the next season. If the weather were at all uniform, from the end of November to the beginning of February, and May, June, and July would be rainy seasons, the dry periods coming between; but it often happens that one long spell of rain continues from November to July, while sometimes the commencement of the year is dry. The later dry season is, however, very reliable, and when, as sometimes happens, it extends from August to the following February the colony suffers from drought. Notwithstanding the heavy rainfall there is rarely a day without sunshine, the rain falling in torrents for a time, and the sky clearing almost immedi-

ately afterwards ; but the intense glare even in the driest season never causes sunstroke.

Unlike the West Indies, neither destructive earthquakes nor hurricanes are experienced in the colony. Thunderstorms occur at the changes of the seasons, but accidents from lightning are almost unknown. Even floods, although sometimes very injurious to cultivation, are never dangerous to buildings, much less to life.

With such an equable climate it follows that those diseases caused by sudden changes, so common in temperate regions, are rather rare. Consumption appears to have been unknown up to a few years ago, and many cases occur where patients suffering from this disease have come here and recovered when hope had been almost abandoned. Gout and rheumatism are also less common than in temperate climates, while such infectious diseases as scarlet-fever and small-pox have been almost entirely excluded, the latter having been unheard of for half a century at least.

The diseases most common are malarial fevers and dysentery. Demerara has been undeservedly stigmatised as a hot-bed of yellow-fever, on account of two or three severe outbreaks of that disease which took place at Georgetown forty to fifty years ago. These were probably due to the accumulation of decomposing matter behind the wharves, which had then been lately erected and filled in with rubbish. Since that time the drainage has been improved and the neighbourhood of the wharves kept cleaner, with the result that no serious outbreak has occurred since, except one in 1881, and even this followed on the case of a gentleman who arrived by the mail steamer sick, and was unfortunately allowed to come ashore. This epidemic, although very serious,

resulted in the death of only about fifty persons, all whites, and late arrivals in the colony.

The death-rate of the colony is about thirty-five per thousand. This is rather high, but it is made up to a considerable extent by the mortality among negro children, who are notoriously allowed to die through neglect and carelessness. Once past childhood the negro is strong and lives to a good age, seventy or eighty being common, while some claiming to have seen a hundred years are found here and there. There appears to be less risk for the old man or woman in the tropics as compared with temperate climates, as they are not so subject to sudden chills and the consequent coughs and colds. Where in England an old person would keep his room, or at least remain in the house for half the year, in Demerara, on the contrary, he could drive out every day when no rain was falling.

PATH FOR HAULING TIMBER.



FOREST PRODUCTS.

WITH such a large extent of forest it naturally follows that the timber industry is of some importance. The buildings throughout the colony are almost entirely built of wood, the framework consisting of greenheart or mora, while the boarding is generally American lumber. Native woods are undoubtedly superior for all building purposes, as they resist dry rot, moisture, and wood ants, but on account of their hardness are expensive to work, consequently the cheap white or pitch pine board is commonly used. A good house-frame made of greenheart will last over a century, while pitch-pine requires renewal in thirty or forty years, and ordinary white-pine boarding in ten to twenty. For piles, dock-gates, wharves, and all other structures partly or entirely immersed in water, greenheart timber is perhaps the very best in the world. It is also classed with teak and oak by "Lloyds" as the most suitable for ship-building. Greenheart is a dense heavy timber of a greenish-yellow colour, very close, even-grained, and almost free from knots. It has a strong balsamic odour when fresh, and this probably tends to preserve it from the attacks of barnacles.

Mora is another first-rate timber for house-frames and ship-building. Although not so lasting as greenheart it is better than even oak for all purposes to which that excellent wood is applied.

Its colour is reddish-brown, and like greenheart it is procurable in logs of sixty to eighty feet long and up to two feet in diameter. Wallaba is also a particularly useful wood and is utilised to a very great extent in the colony. Being easily split it is made into shingles, paling staves, and vat staves, while the logs are used for posts and joists of smaller buildings. The necessity for storing rain-water in large vats renders the wallaba indispensable, as it is far more durable than oak. Its colour is a dark crimson, and it contains a gummy secretion which tends to preserve it against insects. Shingles made from it are not so inflammable as those made from cedar, and are therefore less dangerous in case of fire.

Among the hundreds of varieties of woods found in the colony are some of the hardest and heaviest in the world, as well as others that are light, as poplar and lime. They vary in colour from nearly black through the various shades of brown to almost pure white. The most singular is perhaps the letter-wood, so called from its dark markings across the grain resembling irregularly formed letters. It is the heart of the tree, rarely exceeding six inches in diameter, while the whole stem from which it is taken may be more than two feet. This has been an article of export from the earliest times, and differs much in its markings, good pieces being highly valued and commanding high prices. It is made into walking-sticks and used for inlaying and other ornamental purposes. Many of the darker and heavier kinds of wood are excellent for furniture, while for light work nothing can excel the simaruba, which on account of its freedom from knots can be sawn to the utmost degree of thinness. As a substitute for mahogany, crabwood is used to a considerable extent in the colony; it is lighter in colour and density than that well-known furniture wood, and is

therefore more easily worked. The native cedar is also used to a considerable extent and is procurable in very large logs. Many of the palm stems could be used for ornamental work, as they have an almost black straight grain on a yellowish ground ; they are made into walking-sticks and used for inlaying.

The export of timber (principally greenheart) amounted in 1891 to 324,036 cubic feet, while nearly five million and a half of wallaba shingles were sent away to the West Indies in the same year.

Wood-cutting grants are obtainable on application to the government and payment of an annual license, and the cost of survey. Such a grant being secured, temporary houses are built, and a number of men employed to chop down the trees and clear a path for hauling, which is done by manual labour over a sort of corduroy road. As the cost of bringing the logs from a distance is considerable, the grant is always on the bank of a river or creek and never extends far inland ; it therefore follows that large tracts of country near the coast are still covered with timber, while the greater portion of the country, being situated beyond those formidable obstructions, the rapids, has been hitherto untouched. The logs, having been brought to the riverside, are slung in the water on either side of a punt, which is thus able to carry a good-sized raft, as the actual weight to be supported is only the difference between the density of the wood and the water in which it floats. On this raft a shed is erected, under which hammocks are slung, and where Indian families often live, while it floats down the river, steered by a long sweep. Floating rafts of the lighter timbers are sometimes observed, but as these woods are not utilised as much as could be desired, such rafts are not common.

As by-products of the timber industry, cord-wood and charcoal are very important. Charcoal is commonly burnt in hollows made in the sand, but the Chinese wood-cutter erects a proper dome-shaped kiln of clay, from which is turned out a very superior product. Charcoal is used almost entirely in the "Dutch stoves" throughout the colony, while wood is one of the principal fuels in the sugar factories, both articles being exported to Barbados and other West Indian islands, the quantity of charcoal in 1891 amounting to over 52,000 bags.

Other forest products include ballata, a kind of gutta-percha, and gumanimi, the former of which was exported in 1891 to the amount of 116,307 pounds, this being little more than half the output of the previous year, while the latter amounted to 5,074 pounds. Ballata is collected by bleeding the trees and drying the product, while gum animi is generally obtained from the hollows and about the roots of old locust trees. Several forest products of considerable importance remain to be utilised, notably tonka beans, used in perfumery, mangrove and other tanning barks, medicinal barks and seeds, India rubber, hyawa gum, used for incense, oils from the crabwood nuts, and a number of palms, nuts of the Saouari and Bertholettia, and a number of basts and fibres. Some of these are already well known and only require development, while others will no doubt be found of considerable importance in the future.

GEOLOGY.

THE general contour of British Guiana may be defined as a gentle slope from the interior to the coast, where, as before stated, an alluvial mud-flat faces the Atlantic ocean. This deposit, as proved by borings for artesian wells, is about a hundred feet deep, and is composed of layers of soft mud, clay, sand, and caddy (broken shells), mixed with a considerable quantity of more or less decomposed vegetable matter. The soil on this is a heavy rich loam, and in the swamps behind the plantations an oozy kind of peat, called pegass, which under cultivation settles down and lowers the surface level to the depth of one or two feet. Behind this comes what was once the sea beach—long stretches of white sand reefs, lying on beds of clay, rising to a hundred feet or more above the sea level and at the coast underlying the alluvium to a depth of more than two hundred feet. This sand is obviously derived from the stretch of primary and metamorphic rocks (granite, gneiss, syenite, quartz, porphyry, schist, etc.), which, disrupted by volcanic rock, crops out immediately behind and forms the barrier which impedes the navigation of all the great rivers and their branches by falls and rapids. It approaches nearest the coast in Essequebo, beginning to crop out at the Groot creek about thirty miles from the sea. A few miles beyond this at the penal settlement on the north shore of the junction of the rivers Cuyuni and Masaruni, granite

quarries are worked by the prisoners, from whence are brought the blocks used in the sea-wall and road-making material for the streets of Georgetown. Not far from this place, at a short distance from the first rapids of the Cuyuni, gold-bearing quartz has been found, but from its being rather poor in quality and on account of the cost of working and difficulties connected with navigation it has hitherto been neglected.

The rivers and watercourses of the granitic, metamorphic, and volcanic formations are all more or less auriferous, gold, generally in intimate combination with silver, having been found within their limits from the Barima on the north-west to the Berbice, and will probably be discovered on the Corentyne. In the upper Demerara quartz-mining is being commenced, but elsewhere only placer-washing is at present (1892) carried on. Gold is generally found either in the channels of existing watercourses or the ancient beds of former streams, the "pay dirt" being generally a yellow clay lying under a layer of pebbles and gravel, among which are sometimes found lumps of rich quartz and nuggets.

Throughout the region of the primary rocks large boulders of all shapes and sizes are scattered in confused heaps here and there, being especially noticeable at the rapids. Several isolated columns or piles also stand out conspicuously in different places, the most striking being the Comuti rock, Pouraepiapa, and Kamai, the first being compared to a water-jar, the second, a felled tree, and the last, a cassava strainer. At the falls the rocks are covered with a black or ruddy coating of oxide of manganese or iron, which metals together colour the sand of some of the rivers. Iron is also most extensively diffused in the shape of ferruginous clay, pyrites, and haematite, the latter in

certain districts forming large hilly tracts. Diamonds and sapphires have been found in some places in a mixed deposit of white clay and quartz gravel, and it is expected that in the near future these will be discovered in such numbers as to be worth developing as an industry. Garnets, frequently of large sizes, are of common occurrence in the gneissic granite and schistose formations, while a beautiful amethystine variety of quartz, and richly coloured green and red felstones, quartz-porphyrries, and syenites are widely distributed. Mercury, antimony, and plumbago are known to occur, but up to the present have only been met with in small quantities.

To the west of the colony, where rises the river Potaro, is a sandstone formation, presumably of the new red sandstone, about a hundred and forty miles long by a hundred broad. Here, on the extreme west, is situated the Roraima group of mountains, and on the eastern side the Kaieteur falls. By the influence of aerial denudation the outcroppings of this formation have been worn into most fantastic shapes, especially on the more elevated parts. Where water-falls occur the softness of the stone makes convenient hollows for the growth of filmy ferns, selaginellas, and other delicate plants, so that the sandstone district is most interesting to the botanist, as well as beautiful to the eye of the ordinary traveller. The petrological nature of this extensive sedimentary formation has been but superficially examined, but the strata consist of mixed beds of pink and white sandstone and conglomerate which in places is much indurated. It is due to a superficial layer of this indurated conglomerate that the Kaieteur fall has retained its perpendicular descent during long ages, while the Potaro has cut its way back from the escarpment of the formation. The sandstone extends east-

ward in broken masses across the Essequebo, Demerara, Berbice, and Corentyne, and these isolated portions are evidently the remains of a former continuous layer, which overspread the greater part, if not the whole, of the country.

Almost throughout the whole of the sandstone formation it is interbedded with great sheets of volcanic rock, greenstone (principally diorite), which has disrupted, not only through the sandstone, but, in other parts of the country, through granite, gneiss, and quartz-porphry. These overlie the others, though denudation has removed the greater portion of the erupted masses, leaving visible the huge dykes which mark the sites of eruption, most noticeable where they form rapids, falls, and cataracts on the rivers. The traveller in the interior meets on all sides evidences of enormous volcanic activity in past ages, and it is no doubt due to this cause that the sandstone, which is often considerably metamorphosed at its points of contact with the volcanic rock, has so far been found destitute of fossils. This is the only system in the colony in which remains of the organic life of past ages can be expected to occur, and it is possible that such may yet be found, but on the contrary it may be proven by future researches that volcanic action and local metamorphism has been destructive of all such remains.

Throughout the conglomerate of the sandstone formation jasper pebbles of all shapes and sizes are of common occurrence, while in other parts of the group finely mottled varieties of catlinite and soapstone, often most regularly and beautifully veined, occur in considerable quantities.

On the confines of the colony, near its south-western limits, extensive savannahs stretching westward to the Brazils take the place of the forest-covered granite and sandstone regions. These

are composed of a gravel, sand, and clay deposit, covered by a thin loam, the whole overlying extensive layers of the primary or metamorphic rocks, which in some places suddenly outcrop and rise to hills and even high mountains. The white clays of this deposit, and those along the Berbice and Corentyne rivers, are well adapted for the manufacture of porcelain, the ochreous clays for coarse paints, while abundant areas of common yellow, red, and blue clays distributed all over the colony are highly suitable for making the commoner kinds of pottery and for bricks.

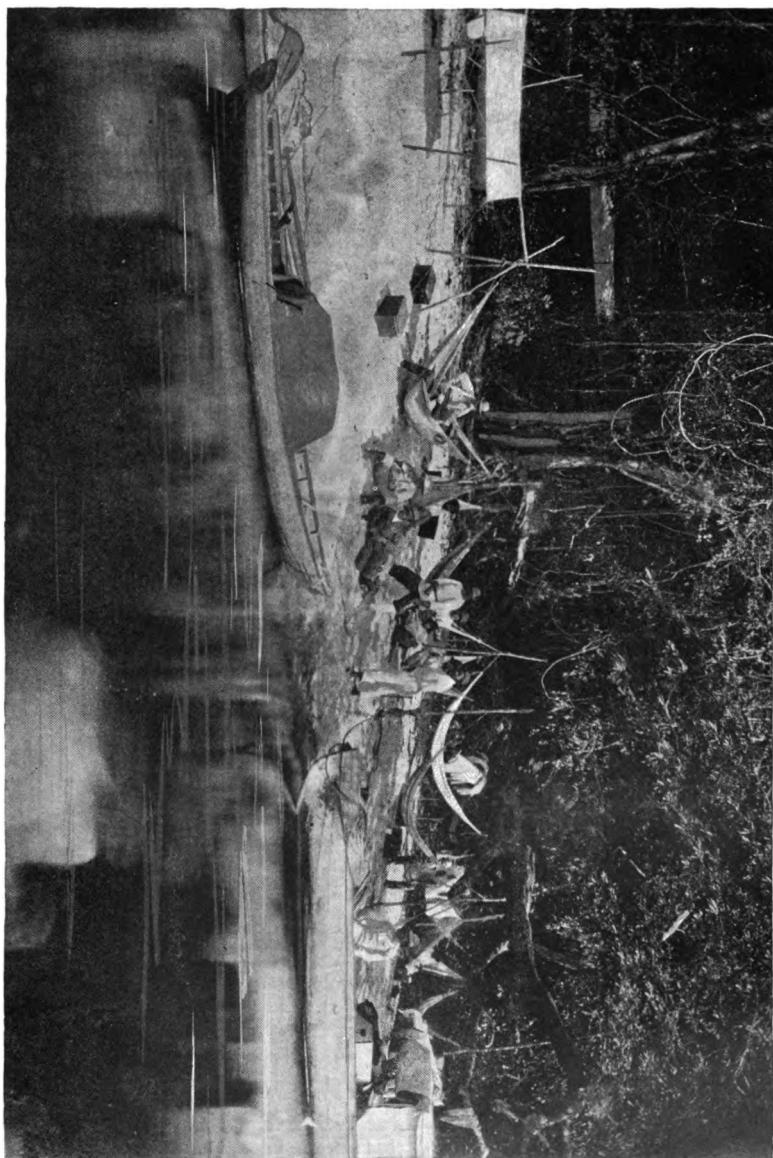
The relations of the different rock systems may be indicated in a few words. The coast alluvium, as we have shown, overlies the granite, which may be regarded as the base rock of the country, for although this may be observed passing into true gneiss in many places, it is yet as a rule overlaid by the great extent of gneissic formations and associated metamorphic schists. Quartz, porphyry, and felstone, when found associated with granite, rest upon it, while they in turn are overlaid by the gneissose series. The sandstone formation overlies the volcanic rock or greenstone in its greater extent, though in places the trap rock is replaced by felstone and quartz-porphyry. As may be gathered from the above, the greenstone is found disrupting all the great rock-masses, overlying them and interbedding them, although, in the greater number of cases, only dykes of the rock are found along the lines of eruption.

GOLD INDUSTRY.

THE whole of Guiana, from the Orinoco to the Amazon, was famed as a gold region from the earliest times. Here the Spaniards located the mythical lake Parima, as large as the Caspian sea, with its golden sands. On its banks was situated the city of Manoa, where lived "El Dorado," the gilded king. Throughout the West Indies it was rumoured that the gold plates, found universally among the Indians, were brought from the mainland, and when Raleigh made his explorations of the Orinoco he was told they came from Macureguarai, an Indian town described as in the district now known as the Caratal gold-fields of Venezuela. Raleigh states that the Indians combined to keep the Spaniards away from their gold-mines, and judging by the result they succeeded very well — so well indeed that the old stories were entirely discredited.

Under the Dutch, attempts were made to open up gold-mining in Essequebo, but being found very expensive and giving no adequate returns these were soon abandoned. After the discovery of gold at Caratal, however, in 1856, search was made for the precious metal in British Guiana, with the result that indications were found in a number of places. A company was formed soon afterwards and mining commenced with promising results, but on account of various difficulties the work was abandoned, and the buildings and machinery allowed to go to ruin. Nothing more

A CAMP IN THE FOREST, ON THE WAY TO THE DIGGINGS.

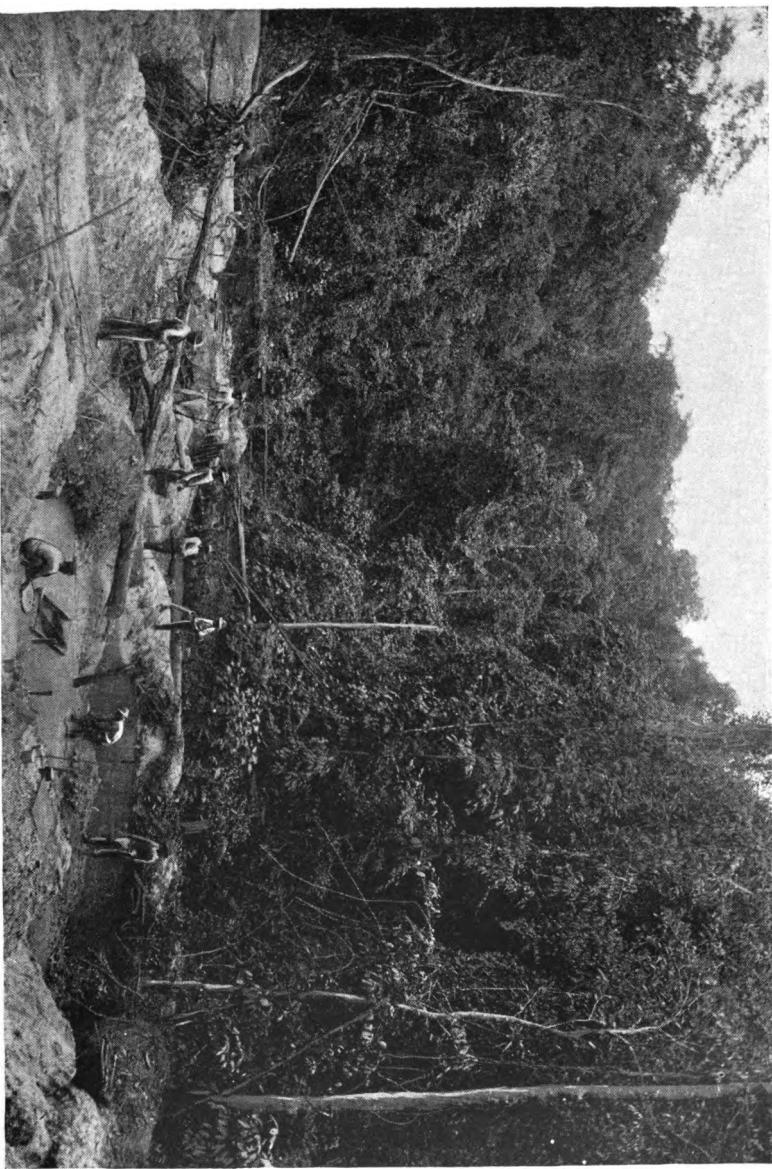


was heard of gold-mining until about the year 1880, when it began to be rumoured that some Frenchmen from Cayenne, in the employ of a prominent merchant in Georgetown, had discovered gold, and were carrying on placer-washing in the Puruni river, a branch of the Masaruni. Very little was known as to the results of these operations, but two or three years afterwards other parties sent out expeditions, and the Puruni became known as a rich gold-field. This gold-washing went on at first without government interference, but in 1884 certain regulations were made and a royalty imposed on the gold obtained, which amounted in that year to 250 ounces. The year following the returns gave 939 ounces, then came 6,518 ounces in 1886, since which every year has about doubled the output of its predecessor, that of the year 1891 amounting to 101,297 ounces, valued at \$1,801,389, while the first half of 1892 shows a further increase to 54,559 ounces.

At first it was thought that, although gold was well known to be distributed in several rivers, only the Puruni was rich enough to pay for washing. Later, however, several placers were taken up in the Groote creek, which being near the coast was easily accessible. Prospectors then began exploring the whole district between the Essequebo and the Orinoco, with the result that the Barima and Barama rivers were found rich in gold. Others went farther into the interior, discovering the now popular Potaro diggings, while discoveries have been made in the upper Demerara, which will probably lead to quartz-mining in the district. It may be confidently stated that the gold industry in British Guiana is at present only in its infancy, yet the colony already outstrips its neighbours Cayenne and Surinam, both of which had placers for many years before any were known here.

As in Suriman and Cayenne, there appears to be two zones of gold-bearing strata in British Guiana. The first, or that nearest to the coast, is situated in the north-west district at the heads of the rivers which flow into the Cuyuni on the south, and the Atlantic ocean on the north, the dividing ridge being the Ima-taca mountains, which extend about midway between the coast and river. The second appears to stretch right across the country from north-west to south-east, beginning in the Masaruni and Puruni, from thence stretching to the Potaro, across the Essequebo to the upper Demerara, and probably across the Berbice and Corentyne. On account of the distance of these diggings from the coast, every gold expedition must be provided with what is necessary for the time occupied in prospecting or digging, including food, medicine, tools, hammocks, etc. In going up the rivers Essequebo, Cuyuni, or Masaruni, the boats have to be unloaded and hauled up several rapids, while the journey is further delayed by the strong current of the river. Two or three weeks are often occupied in the journey, pulling against the stream all day and camping under the forest trees at night, exposed alternately to the tropical sun and pouring rain. If the expedition is for prospecting only, about ten men and one boat will be required, the cost being something over \$300 per month. A prospector goes from creek to creek, trying every likely place by washing a few shovelfuls of "dirt" in his battel, until he finds a suitable location for a claim, upon which he sets up a notice-board and generally returns to Georgetown to make arrangements for a suitable number of labourers and their outfit. Labourers are paid sixty-four cents a day and rations, and are under engagements generally for three months.

Some of the "placers" are very picturesque, being situated



GOLD PROSPECTING.



GOLD WASHING.

in ravines, under the shade of immensely tall forest trees. Here may be seen ridges and heaps of clay and gravel with the corresponding excavations, and a long wooden box or sluice at which perhaps a dozen men are working, puddling the clay in a stream of water, and picking out stones, above an iron plate perforated with holes which allows the gold and finer particles of clay to be washed into the trough, where quicksilver is placed and prevented from being carried downwards by ridges in the channel. The clay passes away with the water while the gold is captured by the quicksilver, from which it is recovered by distilling. Near the sluices are the sheds, under which the supplies are kept, and where the labourers hang their hammocks.

As in other countries, the yield of gold varies here very much. Sometimes as much as six pounds have been obtained in a day from one sluice, while a few days afterwards the amount has dwindled to a few ounces. In some places are found nuggets of one or two ounces each, together with smaller lumps, in others only fine dust. The largest, a mass of gold and quartz, was found by the Luckie Syndicate in April, 1891, at their place in the Conamarook creek, a branch of the Potaro. It weighed 509 ounces, and contained 274 ounces of pure gold and 4 of silver, realizing £1,067 7s. 7d. Assays show that the gold varies as to its proportion of silver from one or two per cent., in that from the Cuyuni, to ten per cent. or more in some other districts.

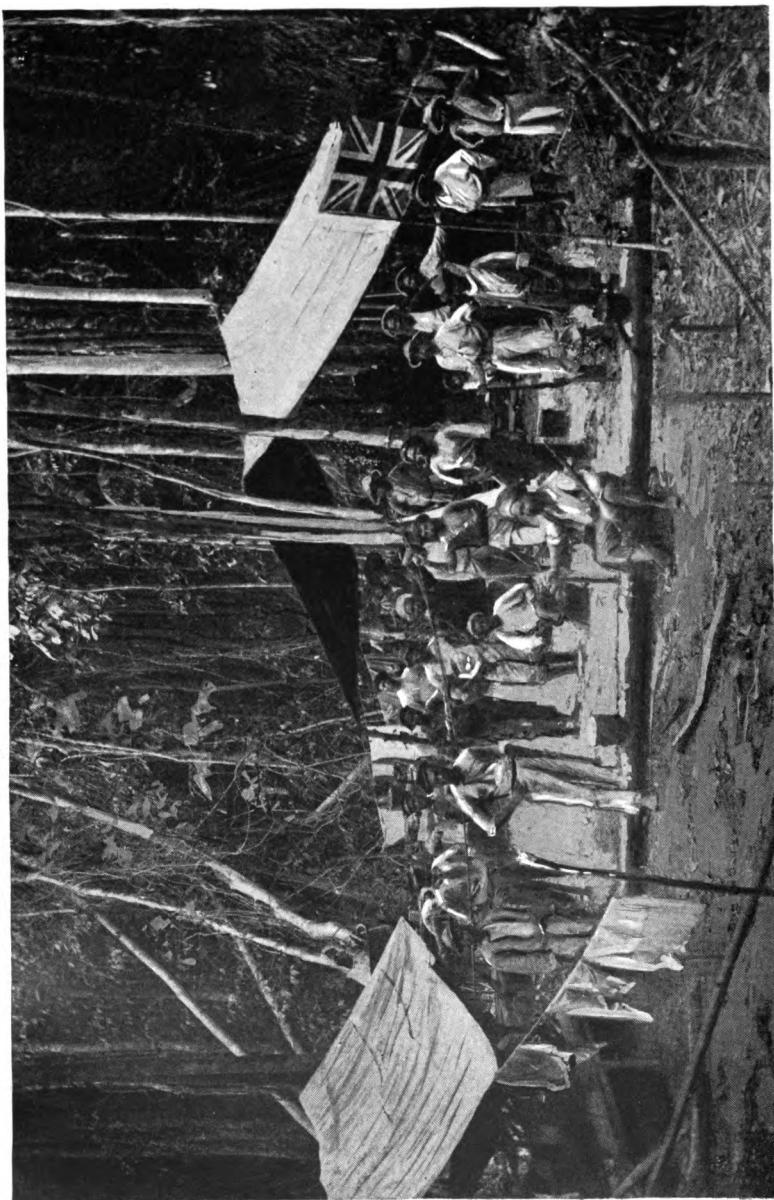
During the year 1891, about twenty thousand labourers were registered for the several districts, these serving on an average for about three months each, so that there were always four or five thousand diggers in the bush. This year the number has been greater, probably averaging six thousand. The most popular diggings are now those in the Barima river, near the

Venezuelan boundary, which appear to be very rich. Once a fortnight a steamer makes a trip to the district, while schooners and sloops are continually coming and going with labourers and supplies. On account of the fewer difficulties in this river, there being only two or three unimportant rapids in the upper part, these diggings as well as those of the Barama, a tributary of the Waini in the same district, are likely to become even more popular.

The labourers are almost entirely negroes, the East Indian being unable to do the heavy digging and shovelling required. As a rule they are fairly manageable and give little trouble unless they want to come to town during the holidays, when they are inclined to do almost anything in the shape of shamming sickness and making complaints. Up to the establishment of the Institute of Mines and Forests, great difficulty was experienced from labourers engaging themselves, taking cash advances, and then refusing to go with their party or running away. The Institute now registers their people and prosecutes them when they do not fulfil their engagements, at the same time protecting them in their legal claims on their employers. At first the gold-diggings were considered particularly unhealthy, but lately on account of the greater care in building sheds, and by taking other sanitary precautions, sickness is becoming much less common, while better acquaintance with the rapids prevents that carelessness which led to the loss of several boats' crews in the earlier years of the industry.

That many persons have suffered severe losses by embarking in this industry is beyond doubt, but others at the same time have been doing well and putting more capital in their placers. Up to lately prospecting has been carried on by people who knew very little about what they were looking for, and have had to pay for

GOLD DIGGER'S CAMP.



their experience. These made mistakes by which their employers suffered heavy losses which often disgusted them with the industry, and then again they were not always honest. A dishonest prospector often returned with a story that could not be verified, to account for his non-success, and not being engaged a second time, went off to another person and was sent to take up a placer he had discovered and kept secret from his first employer. Notwithstanding these abuses and cases of non-success, the industry, as we have seen, is steadily increasing, and becoming more profitable as experience is gained. Up to the present none but a person with some capital can embark in it, there being nothing here like the Californian or Australian digger.

Among the difficulties connected with the industry is the weather. If too wet the excavations are filled with water so that the men cannot work, while, on the contrary, if very dry, water cannot be obtained for washing. Sometimes the work is delayed for several weeks from one of these causes, during which time the expenses are but little reduced while the returns are *nil*. If in the face of all these obstacles placer digging can be made to pay handsomely, it may be safely stated that our gold-fields are enormously rich. Diggers from other countries say they have been accustomed to wash earth that is looked upon with contempt in British Guiana and not considered worth thinking about. Quartz reefs of a most promising nature are scattered everywhere waiting the advent of the mining engineer, while thousands of acres of old gullies and creek-beds are untouched ready for the placer digger.

According to the new regulations, which came into operation on the 1st of July, 1892, every gold-digger must get a license before he begins to prospect. In this is inserted his name and that

of any other person that employs him, as well as an address in Georgetown where notices may be served, the cost being fifty cents per month. This gives the bearer the right to prospect anywhere throughout the colony, and it may be taken out for any number of months, not exceeding twelve. When the prospector has located his full number of claims,—five in each district,—he must give up this license. Each claim is limited to one thousand five hundred feet long by five hundred broad, and the five may come together or be separate. The course of a stream may be followed and the measurements made along and across it, otherwise an oblong with straight lines must be taken. Four posts must then be placed at the corners, and to show the direction of the lines furrows dug for six feet. On each post a board must be nailed, on which the name of the owner, the date of location, and later the number of the claim must be painted. The districts are, first, Corentyne and Berbice rivers; second, Demerara and Essequebo above Bartica; third, Masaruni; fourth, Cuyuni; and fifth, North-West District. After locating one or more claims in either of these an application must be made to the government officer of the district, giving full particulars, which is advertised for four weeks in the "Official Gazette," and if no one opposes, a grant is made on consideration of a payment of a dollar per month for each claim. In working the placer the creek is not to be obstructed or dams erected that may flood a neighbouring grant, and for breach of these and other regulations the gold commissioner may take away the claim. There must be never less than six men to each claim, and the holder is liable to have it forfeited if he leaves or ceases work without notice to the government officer. A book must be kept in which the daily yield of gold is to be entered, this to be open to inspection whenever required. Labour-

ers have to obtain licenses to work, which are granted at a shilling each, and are available for twelve months. They must be paid in cash, no deductions to be allowed except for advances or goods supplied on the placer, not to exceed five dollars per month, proper accounts to be kept, and copies supplied to them when they complete their contracts. When the labourer's contract has expired he is to be returned to the place where he was engaged, and if he dies, his death reported, and any wages due sent to the commissioner. No one may bring down gold unless he is the placer holder or is authorised by him in writing, and it must be taken to the nearest government station for a permit, which is granted on showing the record book, and proving that the gold tallies with this. The officer will then seal the package, after which it is to be conveyed to Georgetown, sent to the commissioner's office, the duty of ninety cents per ounce paid, and the gold then delivered back to the owner, who can only sell it to a person licensed to trade in gold. There are also sanitary regulations for the placers, and laws as to disputes, these being under the control of the government officer, whose decision on facts is to be final, appeals being allowed only on points of law.

F A U N A .

THE fauna of Guiana, identical in all its essentials with that of the great tropical American district, is distinguished by the great variety and specialisation of its forms as contrasted with those of the Old World. Shut out for ages by insurmountable barriers, the South American continent has been the scene of remarkable modifications in its several groups of living creatures. Many families of these are to be met with in no other part of the world, and from the similarity of the natural conditions throughout the American tropics, these forms have spread uniformly to a degree hardly found elsewhere. The large groups of mammals and birds, as well as the more lowly tribes of insects, illustrate to a remarkable extent extreme specialisation, the latter showing not only the most astonishing variety of quaint and grotesque forms, but also complete adaptation to their surroundings. Some of these assume such wonderful shapes and colours as to be classed among the most striking and beautiful in the world.

The mammals of Guiana offer a peculiar field of study for the naturalist, the types, with a few exceptions, being confined to the region of which the colony forms a part. All the large genera so familiar in the Old World—gorillas and other apes, the elephant, rhinoceros, hippopotamus, horse, camel, and many others—are entirely absent, their places being supplied by an

abundance of smaller and peculiar types. These include the sloths, armadillos, ant-eaters, tapirs, peccaries, cavies, ring-tail monkeys, etc., some of which live in trees, others burrow in the ground, and a third class are at home about the banks of the rivers. The forest proper is almost devoid of large animals. Here and there a pack of bush hogs or peccaries, a deer, or tapir is seen by the huntsman, but an ordinary traveller hears nothing in the forest but the howling monkey and very rarely sees even him. Sometimes a jaguar or one of the other carnivora, which range in size from little larger than a cat to almost that of a Bengal tiger, is seen on the branch of a tree overhanging the water or even swimming the river, but they are very shy and hardly ever dangerous. Their footprints may also be traced on the sand of the "Mourie," and near them perhaps the remains of an unfortunate bush-hog, consisting of a few bones, hoofs, and stiff bristles.

The monkeys belong to two families entirely confined to the region, and are not only distinct from those of the Old World, but are structurally separable. The broad septum of the nostrils, the prehensile tail, so frequently present, and so useful in their arboreal life, and the absence of posterior callosities and presence of cheek pouches, furnish obvious characters separating them from apes and other types. The red and tawny howling monkey, whose loud, reverberating roar, produced by means of an extreme development of the bony, hyoid pouch, is one of the most characteristic of forest sounds; the little, shapely, golden-green squirrel-monkeys or sackiwinkis, the long-limbed and long-tailed black spider-monkeys or quatas, the common brown ring-tails or sapajous so generally kept as pets, the tiny, golden-handed marmosets, the bushy-haired black and gray huruas, and other

species of bush-tailed forms such as the bearded beesa or beelzebub, are widely distributed throughout the colony. Some of these are found at a short distance from the coast, but here they are comparatively rare, becoming more common farther in the interior. Sometimes they congregate together in considerable numbers, and if alarmed swing themselves quickly from tree to tree and hide in the canopy of some tall forest giant.

Bats attain here their greatest development and specialisation. The leaf-nosed family is confined to the region, but the horse-shoe-nosed and fox bats are entirely wanting. Large and small forms of insectivorous and frugivorous bats are distributed everywhere, being seen hung beneath dense masses of creepers, in hollow trees, and about old buildings. Some of the houses in Georgetown are built on brick walls; the enclosures thus made are often tenanted by thousands of these little animals, which hang themselves up to the rafters and boards, like a miniature assemblage of game at a poultreer's. At sunset they fly about so plentifully that they are more common than birds in the day, and in the morning seeds and fruits, half-eaten, are found scattered in every direction near their haunts. In some parts of the forest region the horrible vampire is ready to suck the foot or even the cheek of the unwary traveller, who wakes unrefreshed and weary to find his hammock stained with blood from the wound left by this dreadful creature. Fortunately they are unknown in the settled districts, but in the interior domestic animals have to be protected from them by close palisading or by keeping a strong light constantly burning in their pens.

Peccaries represent the hogs, and these, with a few species of deer and the brockets, are practically the only representations of the host of swine and ruminants of the Old World. The odd-

toed ungulates find a unique species in the ancient tapir, which is our largest type of animal. The jaguar and puma take the place of the great cats of the Old World, and range over both forest and savannah, being more common near cattle farms and on the plains. They are commonly called tigers, the smaller species being named after the animal which they are supposed to hunt, as labba or deer tiger. One species is said to hunt in packs, and this is much dreaded by the Indians. They vary in markings as in size, it being rare to find two skins exactly alike. The jaguar is sometimes of a very dark brown, when the spots generally so conspicuous are almost obliterated. The other groups of carnivora are barely represented by a few dogs and dog-like forms, while the civet cats and weasels are replaced by species of raccoons, grisons, and otters. The rodents are very well represented, the capybara, or water hog, the largest member of the family, being comparable to a fair-sized pig. The cavy or guinea-pig family, to which this belongs, embraces also the labba or paca and the agouti or acourie; these are among the commonest of our mammals, and the principal game hunted by the Indians. They generally live in hollow trees, and, like many other animals, take to the water when pursued, followed by the wiry ill-fed dog of the Indian, there being generally a friend of the huntsman waiting in his canoe to prevent the animal escaping.

The manatee is one of our most interesting animals and is not uncommon in the great rivers, although scarcer than it appears to have been in early times. By exaggeration and misunderstanding it received the name of mermaid or water-mamma, and was credited with many of the attributes of the siren of the ancients. How such an unwieldy creature as this—a whale in miniature—could ever have been figured as a woman-fish can

hardly be understood by any one who has seen it, for except that it suckles its young at the breast, there is no resemblance whatever. It is very quiet and harmless, grazing upon the plants which line the banks of the rivers, its back and head appearing at intervals above the surface as it comes up to draw a long breath. Perhaps this may have been taken for a sigh when heard by the early travellers, and the animals confounded with a bevy of Indian women swimming and gambolling in the water. Their husbands would naturally try to keep the new-comers from their bathing place and probably tried to frighten them with stories of water-mamas clutching at swimmers and carrying them under water. The allied family of porpoises are also found in the greater rivers and are very interesting.

The group of sloths and their allies is the most specialised form of our beasts and is decidedly characteristic. These, the lowest of placental mammals, although represented in Africa and the East Indies, here present many points of modification from those of other regions. The long-haired sloths, so specially adapted for an arboreal life as to be hardly able to walk or even crawl on the ground, are curiously protected by their resemblance, when at rest, to groups of epiphytal bromelias or nests of wood-ants. Unlike most other animals their natural position appears to be hanging downwards, beneath a branch, their bent, hook-like claws being perfectly adapted to this, while having no pads or soles to their feet they are unable to progress otherwise. The great ant-bear with its bushy tail, long tongue, and powerful claws is particularly interesting. Without teeth it is said to successfully contend with the jaguar, ripping open his body with its powerful claws. These weapons are mostly used for tearing down nests of wood-ants or termites, the inhabitants of which swarm out and

are licked up by thousands with the animal's long tongue. The smaller ant-eater, which resembles a monkey except in being so very inactive, and the armadillo, are also curious. These recall in some faint degree those gigantic members of their group that in the last geological epoch inhabited the South American continent with the mastodon, horse, sabre-toothed tiger, and other extinct gigantic creatures of the past.

In every part of the colony, in the towns, savannahs, and forest, various forms of the opossums (*didelphys*) are to be found. These are the only marsupials or pouched animals outside the Australian region, and have become modified so as to be peculiarly adapted for an arboreal life, the hind foot being, as in the monkeys, to all intents and purposes a grasping hand. In them also is developed the perfect prehensile tail found in so many groups of our animals in consequence of their living in the dense forest.

The birds of the region not only equal but far surpass those of any other part of the world in beauty of colouring, while their peculiar modification and specialisation give them a place quite unique. With the exception of a very small proportion of generic types, our representative families are all peculiar, whole families being confined to the region, and in the case of that unique reptilian bird, the *opisthocomus*, an entire sub-order. The families of sugar birds, greenlets, tanagers, hang-nests, tyrant shrikes, bush-shrikes, tree-creepers, manakins, cotingas, jacamars, toucans, macaws, puff-birds, guans, curassows, tinamous, and many others are peculiar to the region, while among the trogons, chatteringers, herons, and ibises, most lovely species are to be found. Many of our most brilliant species, such as the humming-birds, can only be fully appreciated when seen at a short distance and

then only in such positions where the full play of sunlight shows up the colouring of different parts of the body. The macaws and ibises must be seen as they fly in great flocks, darting and wheeling as if undergoing some form of drill, before the full effect of their distinct and brilliant appearance can be even conceived. Unlike the woods of Europe, the forest of Guiana is not musical with singing-birds, very few of our species uttering anything but characteristic screeching or peculiar cries. In the silence of mid-day or at night some of their voices have a most weird effect, which is quite startling to a new-comer, the more so as the bird may be quite alone. Except for an hour or two at sunrise and about the same time in the afternoon not many are seen, and even then the feathered race seems to be strikingly few in number, although varied in species. A flock of parrots or macaws is the most noisy, but as these birds fly high and perch in the tallest trees, their clamour is modified by distance.

The groups of reptiles, frogs, and fishes are well and distinctly represented, forming important features in our fauna. The horrid and repulsive alligators, some of them enormous in size; the gigantic constricting serpents or boas, often as much at home in the water as on land or in a tree; the large tree-lizards or iguanas and their pretty cousins, which bask in the sunlight in our gardens; the highly mimetic tree-frogs, some of which make up for our want of singing-birds by their chirping; and an almost infinite variety of strange fishes,—all show the wealth of special forms and the variety which is so characteristic of this part of the world. Among these occur many special cases of protective colouring, alligators resembling the mud on which they bask in the sun; the iguana, the green foliage of the tree in which it hides; snakes, the branches around which they coil; and frogs, the several

localities in which they dwell. The fresh-water fishes are in very great variety, some of them being most brilliantly coloured or decorated with spots of all the prismatic tints, entirely beyond the power of an artist to reproduce.

It is, however, among the insects that we meet with that abundant and astonishing variety of genera, species, and even individuals, that is approached in no other part of the world. Whatever may be said as to the scarcity of the larger animals in British Guiana cannot apply to the insects, for these are everywhere in myriads. Every order is well represented, the only class apparently unknown being that pest so common in some other countries, the fruit and sugar-sucking house-fly. The tropical fruits, being generally provided with thick skins and acrid secretions, have succeeded in protecting themselves against flying insects, including not only flies, but wasps as well, only to remain open to the depredations of bats. Our sugar pests are the ants, which find their way into our storerooms, safes, and even the sugar-bowls on our dining-tables. A long chapter might be written on these little insects alone, which are particularly interesting to the student, although most obnoxious to the housewife. In the house a goodly number of kinds may be found, while the garden and forest are infested with carnivorous and leaf-eating species, some of which bite and instil such virulent poisons as to bring tears in the eyes of the strongest man. The houses are also tenanted by other insects more or less obnoxious, such as several kinds of spiders, including those large species which hunt and capture the repulsive cockroach. If anything like a lumber-room were allowed to exist, it would soon be occupied by scorpions and centipedes, and become a danger to the whole house by harbouring wood-ants, which, in a very short time,

make boards and timber so brittle that they crumble at a touch. With such open houses it is natural that flying insects are common visitors, while the mason wasp makes its mud nest in the rafters of the verandahs, and even sometimes on picture-frames in the sitting-rooms. At night great moths and dragonflies commit suicide in the gaslights, and at certain seasons a great number of beetles fly direct to the shades, drop on the floor and furniture, and are seen by hundreds crawling about the rooms. At times, also, ants swarm into the rooms, dropping their wings as they alight on the tables, while these, with gnats and small moths, often make quite a litter under the lights on a damp evening.

Among the insects, Nature has, so to speak, run riot in her modifications and developments. The conditions of life in a suitable temperature and with abundant moisture have emphasised throughout the region the slightest variation that has occurred, and perfected, modified, and transformed them to a degree that may almost be called appalling. Excessive as seem the modifications and adaptations in form and colouring for protective and aggressive purposes of insects in other parts of the world, these become dwarfed and insignificant when compared with the special developments met with here at almost every turn. Brilliance of colouring is as marked as it is common, especially among the butterflies, moths, beetles, and ephemeræ. Singular shapes and curious resemblances to other natural objects are also seen in the orthoptera, the flies and wasps, and the bees. The azure gleams of our most beautiful morphobutterfly, intensified by the bright sunlight, with the star-like lamps of the candle-fly, deeper by contrast with the gloom of night, leave us filled with wonder at the amazing resources of nature, and make us long to

find out the why and wherefore of these marvellous developments.

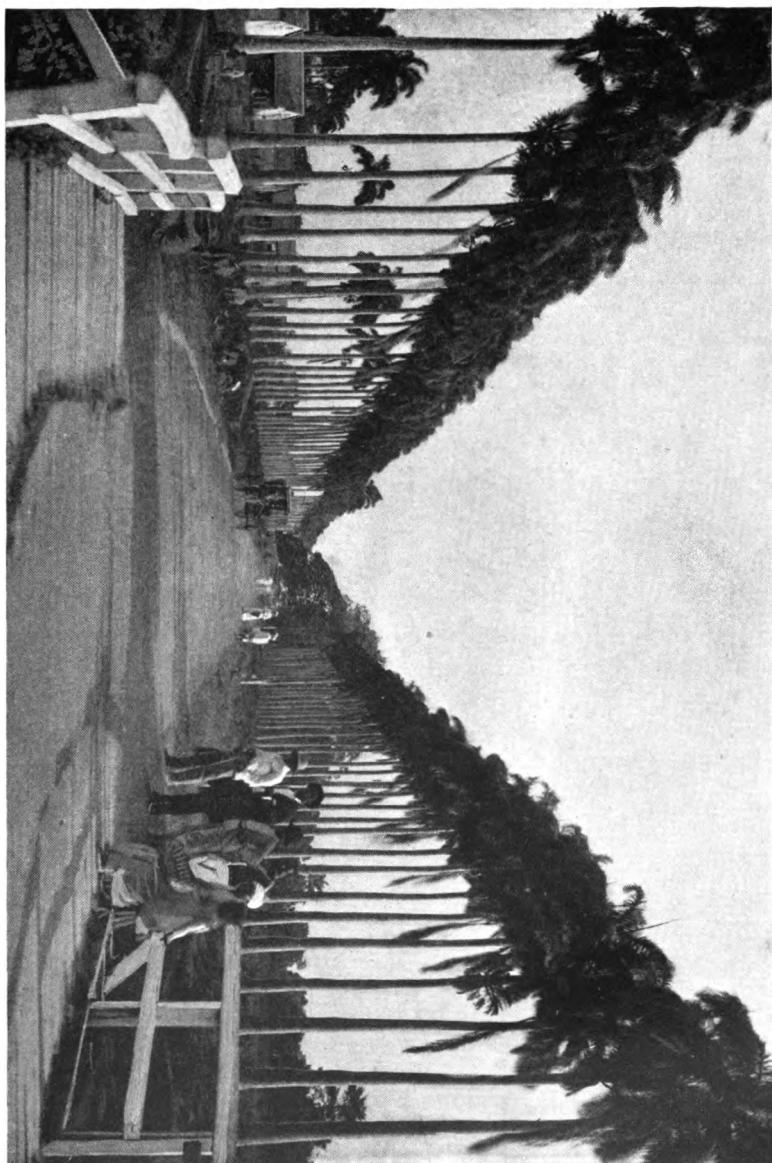
While the diurnal insects amaze us with their colours, those which fly at night astonish with their din. As night falls a continual hum is heard, which continues until morning. Here and there a cicada or cricket enlivens it with his characteristic note, but otherwise the sound is only comparable to ringing in the ears. This is made up of the trumpeting and buzzing of myriads of insects, chiefly mosquitoes, gnats, and sand-flies, which crawl out of their pupa-cases after sunset and are prepared to gorge themselves as soon as they have aired their wings. Mosquitoes are very plentiful in some parts of the settled districts, but in others are little thought of, while in the forest they are almost unknown. Persons may sleep in Georgetown without protection for about half the year, but even in the worst time the plague is not comparable with that of some other countries.

The lower forms of life are especially plentiful in the ditches and canals, there being no cold season or strong current to interfere. Here, however, is a world in itself, and we can only state that almost everything found in other parts of the world is also to be seen here, with probably myriads of species awaiting the attention of the microscopist.

FLORA.

THE great characteristics of the vegetation of Guiana are altitude and size. The trees are tall, the leaves broad, and the flowers immense. Almost every plant is a giant of its kind, and seems aiming to grow bigger and bigger and outstrip its neighbour. The forest trees are all straining to get above each other to obtain a greater share of the sunlight, which is so plentiful and yet too little for each individual. Tall and straight, but not so large in circumference as the great pines of California or the gum trees of Australia, the mora and greenheart of British Guiana are grand representatives of hundreds of species that inhabit the forest. Unlike the woods of temperate climates, the forest is made up of a variety of different kinds, hardly two of the same species coming together, while their branches interlace so far above the ground that it is hard to tell those belonging to one trunk from those of its neighbour. Having great height, with slender stems in proportion, the trees have acquired the habit of strengthening their positions by buttresses, which sometimes extend for twenty feet beyond the base of the trunk. Between these living walls a party may camp, and, with the aid of a few palm-leaves for a roof, make a very convenient temporary lodging. There is no difficulty in procuring suitable leaves, as those of the troolie palm are almost entire and about twelve feet

Avenue of Royal Palms, Plantation Houston.



long, while heliconias, ravenalias, and marantas have foliage equally fitted for the purpose, although not so large. The arum family is well represented, and its members are also conspicuous for their foliage. Some climb to the tops of the highest trees and festoon them with immense heart or arrow shaped leaves, while the tree-like montrichardia grows on the banks of the rivers and forms impenetrable thickets twenty feet high.

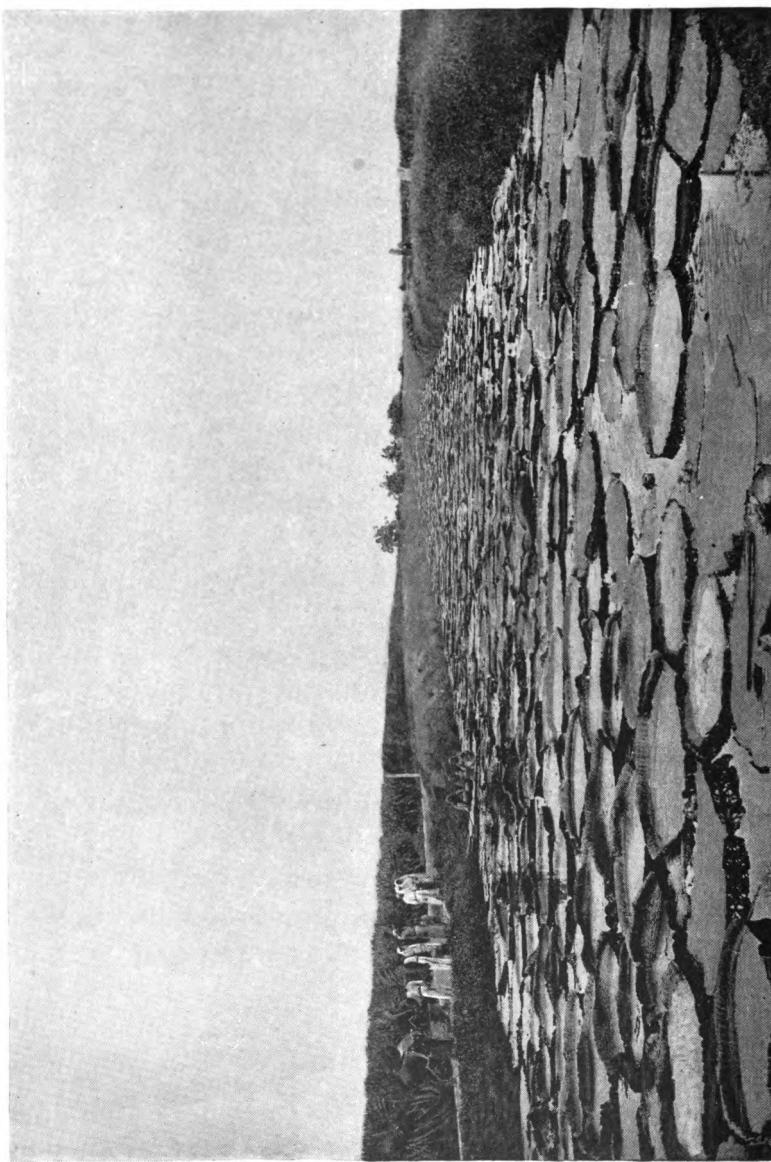
The grandeur of the forest shades is mixed with an awful solemnity. Like in the aisles of some immense cathedral, the sunlight does not penetrate, but there is a dim half-light through which an endless assemblage of dark pillars extend as far as the eye can reach. Crowded together as close as their neighbours will allow, each tree takes advantage of the others elbow its way up a little higher. Then come the bush-ropes, which hang in festoons from the topmost branches, some in a confused assemblage of great cables, others like miniature staircases for the convenience of the monkeys, and a third class like giant pythons. Below there is nothing but bare stems, but far above the leaves and flowers of the bush-ropes open to the sunlight and help to smother the tree which has enabled it to reach this altitude. From the ground nothing but a confused mass of foliage is seen, from whence drop withered flowers and fruits, the latter scattering their seeds in every direction as they fall.

The continuity of the forest is not broken by the narrow rivulets or creeks, but these flow through arcades or tunnels of vegetation, their dark waters looking quite black in the half light. Here and there, however, where a tree has fallen, the light is enabled to penetrate, and a few smaller plants grow on the banks, or perhaps a bed of cabomba or water-lilies covers the surface.

The great rivers are fringed by banks of vegetation which slope down into the water and are overhung by festoons of bignonias, allamandas, convolvuli, and a great variety of other creepers. The forest giants come as close to the banks as they dare, but the oozy shore is the home of a dense jungle of prickly shrubs, marantas, and monrichardias, which extend into the shallows, and are waved backwards and forwards in the current as if alive.

Where creeks flow through wet savannahs or marshes they are choked with vegetation. White water-lilies grow here to perfection, their flowers opening at night and reflecting the moonlight like fallen stars. Some of these savannahs are covered with razor grass (*scleria*) which renders them almost impenetrable, as it grows to a height of six or eight feet, and the leaves are edged with fine, saw-like teeth which draw blood from the face and hands at the least attempt to push through them. In some places, however, where a soil of almost pure pipe-clay refuses to admit of that luxuriance so common elsewhere, there is an expanse of fine sedges which gives the savannah the appearance of an English meadow or park. With clumps of eta palms here and there, wavy lines of bushes at the edge of the forest, and the dark creek meandering through, the barren savannah is one of the prettiest sights in the colony. Unfortunately it is not easy to walk upon, as in the wet season it is covered with water, and whether wet or dry is so very uneven as to be most tiring. This is a characteristic of all the savannahs. The sedges grow in tufts, each raised a foot or so above its surroundings, so that the pedestrian is continually slipping from tuft to hollow. But to the botanist the savannah is a paradise. Here he finds myriads

VICTORIA REGIA IN A FRESH-WATER CANAL.



of interesting and beautiful plants, including various species of utricularia, ground orchids, droseras, and those curious plants, the burmannias.

But far excelling in interest these savannahs near the coast are the open places in the mountain region, such as the Kaieteur Savannah and especially what the brothers Schomburgk called the "botanical El Dorado," below the cliffs of Roraima. Here among foaming rivulets, running through banks of ferns and mosses, grow some of the most beautiful flowering plants in the world. Magnificent sobralias (orchids with large flowers on bamboo-like stems) grow in thickets, while scattered around in profusion are selenopediums, *Utricularia Humboldtii*, that rare and curious pitcher-plant, *Heliamphora nutans*, *Cleistes rosea*, and a hundred other flowering shrubs and orchids. Dr. Richard Schomburgk, in his "Botanical Reminiscences in British Guiana," said his eyes were dazzled by the splendour of the fresh green and the brilliantly coloured flowers of the herbaceous plants on this plain, while the air was impregnated with delightful fragrance. He fancied himself in a magic garden; such a display of colours, such a variety on so small a space, having been hitherto unknown to him. There were so many new objects that he was unable to give his attention to one plant for even a single minute. His feelings had overcome him, and his heart was jubilant with rapture and delight. All the troubles he had gone through to reach this "El Dorado" were forgotten, and even the future with its fears yielded to the overhappy present.

In the rivers Essequebo and Berbice grows the well-known Victoria Regia water-lily, the queen of the floral world. Brought from the latter river by Schomburgk in the year 1837, it is now

distributed throughout the world. It is so common in the colony that almost every sugar plantation has it growing in its canals, while the long ponds which extend through some of the principal streets of Georgetown are also decorated with it. Like many other water-lilies, it opens its flowers at sunset, shows to advantage on a moonlight night, and rewards the early riser with a view of its beauties.

The princes of the vegetable kingdom — the palms — are well represented in the forest. They vary in size from the little da-halibana (*Geonoma*), which is never larger and hardly taller than a walking-stick, to the graceful manicole (*Euterpe edulis*), which raises its crown above the topmost trees. Some species have clean and smooth stems, while others provide congenial habitats for ferns, mosses, and orchids in the bases of the old leaf-stalks. The eta is one of the most striking as it stands out boldly in the midst of the savannahs or fringes the borders of the swamps, its fan-shaped leaves waving to the breeze above a crowd of epiphytes which occupy their bases. Throughout the cultivated districts the cocoanut and royal palms are scattered everywhere, the latter (called cabbage palm in the colony) forming noble avenues in several places. Above every other of its family it stands straight and pillar-like, and for this reason a pair is often planted at the entrance of a gateway, or a line in front of a house lot, these and the cocoanuts giving to Georgetown the appearance of a city of palms.

The orchids, those curious, singular, and beautiful productions of nature, are found in profusion everywhere beyond the cultivated districts. Most of the species are epiphytal, growing on the branches of trees or in the bases of the palm leaves, but some are found on the sand reefs, others in the savannahs, while a few of the most



CLUMP OF ETA PALMS.



CORYANTHES MACRANTHA.

showy flourish on rocks in the mountain region. They range in size from an inch high to enormous masses several feet through, with flower-stems twelve feet high. About two hundred and fifty species have been enumerated as native to the colony, some of them very showy, others exceedingly curious, and all interesting to the botanist. Perhaps the most wonderful of all is the *Coryanthes macrantha*, with cup-like flowers five inches across, and shaped in such a way as to attract a particular kind of bee to perform the necessary act of cross-fertilisation. Every part of the plant combines to carry out this object, and to prevent any interference on the part of crawling insects, a garrison of carnivorous ants is housed in the oval roots. Other curious and wonderful orchids are also found in Guiana, among them being species of the genus *Catasetum*, the contrivances of which for cross-fertilisation are so well described by Darwin.

Ferns and selaginellas are also very plentiful everywhere on the banks of the creeks, the prickly tree-ferns with their immense fronds standing in clumps and illustrating beauty and delicacy of form as compared with their large-leaved neighbours. The trunks of trees overhanging the water are often decorated with a number of species, commencing with delicate filmy ferns near the base, followed up the trunk by a great number of creeping polypodiums and tufts of stiff or pendulous acrostichums, while the upper forks are decorated with the beautiful chrysodium. Selaginellas sometimes carpet the ground with their delicate, moss-like foliage, while their neighbours, the lycopodiums, grow on the edges of the savannahs and form almost impenetrable thickets like miniature larch forests, about four to six feet high. Mosses are also plentiful, beds of poly-

trichum covering the sand reefs in many places, while white lichens alternate with these and, with a number of small flowering plants, prevent these barren places from becoming uninteresting. Fungi grow everywhere on the fallen trees and in the débris, varying in texture from the hard, woody families to those pretty, jelly-like, frondose kinds which are often so beautifully coloured.

HISTOR Y.

GUIANA may be said to have been discovered in 1498 by Columbus, who could not have passed into the Gulf of Paria without observing the mainland. A year or two later, Pinçon sailed along the coast, but he does not appear to have examined the country, which remained almost unknown during the first half of the sixteenth century. Then arose the myth of "El Dorado," the gilded king, who was anointed every morning with balsam on which gold dust was blown, so that he appeared as if made of gold. Throughout the West Indies and along the coast of what is now Venezuela, the Spaniards found the Indians in possession of gold plates rumoured to have come from the "land of the cannibals," the first name given to Guiana from reports of man-eating Caribs living on the coast.

The exaggerated reports of El Dorado, the city of Manoa, and the great lake Parima with its golden sand, led to a great many expeditions in their search, most of which proved disastrous, as the powerful Caribs always succeeded in repelling the invaders. Then came Sir Walter Raleigh, who, believing the reports of the Spaniards, went up the Orinoco in search of "the richest country in the world" in 1595, and the following year sent Captain Keymis to continue the exploration. No wealth was gained by these expeditions, but by their justice and kindness to the Indians the English were able to gain a great deal of information as to the

country and its people. The Caribs were prepared to do anything for Raleigh, and there was every prospect of an English colony on the Orinoco ; but circumstances prevented his following up the discovery until too late, when the disastrous consequences led to his execution.

Meanwhile, Dutch traders had been busy along the coast from about 1580, trading with the natives for tobacco, cotton, balsam copaiva, gum animi, letter-wood, etc. Being enemies to the Spaniards, the natives naturally considered them as their friends, and allowed them to have a footing where no Spaniard dared show himself. At first the Dutchman made his exchanges of axes and trinkets for the products of the country, and then went on his voyage to return again next year ; but after a while he found it to his interest to leave an assortment of goods behind in charge of a few men, so that collections might be made against his return. To prevent theft and protect the small force against Spaniards or unfriendly tribes, a block-house or fort was built, and this became the nucleus of a settlement.

The first settlements were made on the Pomeroon river, but these being rather exposed to the raids of the Spaniards, in the early years of the seventeenth century a depot and fort was established on a little island called Kyk-over-al, at the junction of the three rivers, Essequebo, Mazaruni, and Cuyuni. Here the Indian trade was carried on to advantage and some provision grounds established, which were cultivated with the aid of Indian slaves bought from the Caribs, who had a sort of market for the sale of their captives at the mouth of the Barima river. In 1621 the Dutch West India Company was established, with the right of trading and settling on all the unoccupied territories bordering on the Atlantic, either in Africa or America, and Guiana became

one of its possessions. Kyk-over-al now became a military as well as a trading post, and in 1627 Abraham van Peere was granted a tract of land on the Berbice river as a hereditary fief. There were now two trading-posts in the country, these being under the superintendence of commandeurs who acted as Indian traders, captains of the few soldiers, and general superintendents. The West India Company being insolvent and about to abandon Kyk-over-al, some of its shareholders and the burgomasters of three towns in Zeeland agreed to take it over in 1657. Strenuous efforts were now made to establish several colonies, free land and slaves on credit being offered to intending colonists. One of the new settlements was in the Pomeroon river, which by the accession of some Portuguese Jews from Brazil soon showed signs of becoming a thriving sugar colony. All its prospects were, however, soon blighted; England went to war with the Netherlands, and in 1666 Major John Scott captured and destroyed the promising young colony and took fort Kyk-over-al. The fort was, however, left without a sufficient garrison, and the commandeur of Berbice found no difficulty in recapturing it a month or two afterwards.

The Pomeroon colony never recovered from this blow, and although attempts were made later to reestablish the settlement, they were unsuccessful, partly on account of an attack by French privateers which caused its final abandonment.

The trading-posts at Kyk-over-al and Fort Nassau in Berbice were kept up and generally gave sufficient profit to pay expenses, but hardly an attempt was made to attract settlers until near the end of the seventeenth century. Several raids of French privateers hindered the progress of the Essequebo colony, while in 1712 Berbice was captured by Jacques Cassard, and held for

two years by French merchants as security for a bill of exchange drawn on the Van Peeres for its ransom. Having been recovered and a company established to develop it, Berbice received a charter in 1732, after which a number of settlers arrived and plantations of sugar and coffee were established. Meanwhile Essequebo had progressed very slowly; but in 1740 the company was induced by the then secretary of the colony, Laurens Storm van's Gravesando, to open the river to all nations, with free grants of land and ten years' freedom from taxes. This led to an influx of English planters from the West India Islands, with the result that five years afterwards the best lands on the Essequebo river had been granted, and permission was given to settle in the Demerara.

Progress was very slow on account of the incubus of the company, which hampered the colonists a great deal by its arbitrary government and restrictions on trade. Nevertheless the colonies of Essequebo and Demerara improved to some extent, and when in 1781 it was captured (together with Berbice) by the British it was considered by them as an important acquisition. By this time the banks of the rivers and a large portion of the coast were more or less under cultivation, and a great impetus was given to the colony by its new owners. In less than a year, however, the French, then allies of the Netherlands, sent an expedition to recapture the settlements, in which they succeeded, retaining possession for about two years. During both English and French occupation a measure of free trade was naturally introduced, and it was therefore with feelings of antipathy that the inhabitants once more found themselves under the rule of the company. But when these rulers interfered with their constitutional rights, there ensued stubborn opposition, which went so far that certain taxes were not paid for three years. Ultimately the number of petitions

and memorials to the States General from Demerara and Essequebo led to an inquiry which resulted in a refusal to renew the charter of the company and a consequent winding up at the end of 1791.

Under the new régime, a Council for the West Indian Colonies, Essequebo and Demerara progressed favourably; but it was not until the British recaptured the colony in 1796 that it began to advance with rapid strides. With the accession of capital the plantations were put under better cultivation and a much larger area was empoldered, cotton becoming the main product. The peace of Amiens gave back the colonies to the Batavian republic, which went near to putting a check on their progress; but fortunately before much harm had been done they again fell into the hands of the British, and at the peace of 1814-15 were formally ceded to Great Britain. Essequebo remained subordinate to Demerara, but with a commandeur and separate court of justice until 1812, when all differences were abolished, while Berbice was united with the two rivers to form the colony of British Guiana in 1831.

There have been several events during the present century which seriously affected the colony, including the abolition of the slave trade and the emancipation. The first put a check on its development at a time when new lands were being opened up on every side. No more labourers could be obtained, so all projects for extension had to be given up. In 1838 came the general emancipation of the slaves, when immediately about a third of the amount of labour became unavailable, with the natural result that many estate-owners were ruined and their plantations abandoned. The negroes refused to work at all except for wages that, with the low price of sugar, which was now the staple product, no one could afford. Hence arose the cry for immigr-

tion and the introduction of Portuguese from Madeira, Maltese, Chinese, and East Indians, of whom the last have proved the best labourers. Many obstructions and difficulties had to be overcome before immigration could be put on its present footing, which may be confidently stated to be almost perfect and a benefit to both the planter and the East Indian. The great drawback to the prosperity of the colony is now the low price of sugar, that barely pays the cost of manufacture, which, however, has been much reduced during the last few years.

With the rediscovery of gold, a fresh impulse has been given to the colony, and it is hoped that this industry will induce immigration of a different class of people. To put it on a proper footing the boundary question with Venezuela must be settled, and the sooner this is done the better for all parties concerned. Had it not been for the absurd claims of our neighbour, who appears to inherit the grasping nature of Spain, the matter would long since have been arranged satisfactorily; but unfortunately she makes her boundary to include nearly the whole of the old colony of Essequebo, the whole of the Pomeroon, and the country inhabited by Indians, who were under Dutch protection and received annual presents for a long period. The territory in dispute has never been occupied by Spain, nor did she ever dare to assume dominion over it; while on the contrary the Dutch commandeurs sent trading expeditions into the country and were arbitrators in the quarrels of the different tribes for two centuries.

RESOURCES AND CAPABILITIES.

WITH such a large area of good soil almost entirely uncultivated, there is naturally room for great development. The fringe of alluvium along the coast is doubtless the most fertile, and hardly a tenth of this portion is in cultivation. Besides this, however, there are thousands of square miles of fertile river bottoms and valleys in the interior, where all the necessities of life could be cultivated with very little labour. The great difficulty in the way of settlers lies in the fact that the colony is nearly on the equator, and therefore Europeans cannot labour in the field as they do in the temperate climates. Attempts have been made during the last sixty years to prove that the higher lands of the interior are well fitted for European settlements, but hitherto no proper experiment has been made. Several colonisation schemes have been projected in the neighbouring settlement of French Guiana, and in Venezuela, but with most disastrous results, doubtless attributable largely to bad management. Isolated cases go to prove that the inhabitants of the South of Europe can live here comfortably and thrive on the fruits of their own labour, while many a Dutch settler, in the early days of the colony, made himself a pleasant homestead on the banks of the Demerara. Such an one is thus described by Waterton in one of his "Essays":

"In the year 1807, some thirty miles up the beautiful river

Demerara, there lived an elderly Dutch settler, whose name was Laing.

"He was one of those farming-looking gentlemen who sauntered up and down his sylvan domain, with a long pipe in his mouth, and with a straw hat on his head, broad enough to serve both himself and his wife, by way of an umbrella, in the blazing heat of an equatorial sun.

"Mynheer Laing had stubbed the surrounding trees to a certain extent; and this enabled him to have a little dairy and enough of land to feed his cattle, and to enclose a garden for the culinary wants of his household.

"In passing up and down the river in your Indian canoe, his house appeared to great advantage. It stood near the top of a gently sloping hill; whilst the high trees of magnificent foliage surrounded it on every side, saving that which faced the river; and there the greensward came down quite to the water's edge. On viewing it you would have said that it was as lovely a place, for a man of moderate desires, as could be found on this terrestrial globe."

From the earliest times the labour question has been the great difficulty. The old planters thought slavery was the only possible means of getting over this. They came to make fortunes, not to settle. Tropical produce was then comparatively scarce and therefore valuable, and the pioneer cared little for comfort as long as his profits were large. He was quite willing to put up with great risks, when the results of his survival would land him in Europe a wealthy nabob. This was not colonising, but fortune-hunting, and could hardly benefit the country to any appreciable extent. Neither could the slaves brought by these people be considered as colonists, and, as might have been expected, since

emancipation they have done little in the way of making comfortable homes ; in fact, they tried at first to carry on the old plantation system among themselves.

Coolie immigration has done little more towards populating the country, partly on account of the stipulation for back passages and partly from want of individual effort. The man to establish a homestead for himself must be independent, energetic, and fertile in resource, which qualities are wanting in the East Indian coolie. The Chinaman is more promising, but there is a strong feeling against him, while his individuality is rather small.

Notwithstanding the fact that European colonisation in the strict sense of the word has never been carried out to any appreciable extent, there are no real obstacles in the way. The country is one of the most beautiful on the face of the globe — a terrestrial paradise. Its fertility is unequalled, there being no deserts, while perpetual summer ripens fruits and vegetables all the year round. Two or three crops of rice or Indian corn can be reaped annually, and every month may have its harvest. Here is the making of a fine country — a country that could easily support a population of twenty millions instead of a paltry two hundred and eighty thousand. Savannahs, on which thousands of cattle could be grazed, alternate with immense forests, from which may be procured some of the finest timber and furniture woods in the world. These are intersected by a most perfect river-system, the only drawbacks being the rapids, which could easily be got over. Every tropical product can be grown. The capitalist may invest in a sugar, coffee, or cotton plantation, while a settler could plant cacao and leave the plantation as an inheritance to his descendants for many generations. The Indian lives on the produce of his cassava field, which gives him little trouble, while the negro

on the banks of the Demerara confines himself to the plantain. Neither of these entail any great amount of labour after the first planting, only requiring to be kept free from weeds, which grow very quickly and must be eradicated in their earliest stages. Unfortunately both Indian and negro are wanting in foresight and leave their cassava and plantain grounds to be choked with weeds and become barren, when a few hours' work every week would prevent this. It was conclusively proved before the abolition of slavery that a negro could provide a comfortable living for himself, and even save money, by working on his provision ground for one day in every week; and if such was the case then, no doubt the same could be done to-day.

Reduction in prices and the want of labour led to the downfall of cotton and coffee as staple products; but with additional labourers either of these could be again planted, and probably with good results to the proprietor. The land and the climate are the same that produced the good Demerara cotton and Berbice coffee of the beginning of this century, while the colony can now command a supply of labour which was then quite unattainable. There are also almost unlimited facilities for cacao cultivation, as the forest trees necessary for shade are already on the ground, and it would therefore be only necessary to thin them and clear away the undergrowth to have a model plantation. Coffee and cotton always succeeded best on the coast, and there are remains of the cultivation of the former still existent and giving fair crops, even in a semi-wild condition. Cacao, on the contrary, is most suitable for the forest region, where it is not exposed to the strong sea-breezes of the coast.

Over thirty-eight million pounds of rice were imported into the colony in 1890, and upwards of forty thousand bushels of corn,

all of which might have been easily grown. Both these articles are cultivated to a small extent and give returns of two or even three crops a year. Other articles of food are imported largely, many of which, or efficient substitutes for them, could be produced here. Even yams and sweet potatoes have been brought from Barbadoes in considerable quantities during the last two or three years, the fact being that the negro of British Guiana is ambitious to be something different from an agricultural labourer, and has no idea of the comfort to be derived from the fruits of the soil.

Among the exports of 1891 were 184,659 cocoanuts and a quantity of fibre prepared in the colony at the Mahaicony Oil and Fibre Works. These could be cultivated to any extent on the coast and pay well either to export as nuts or to express the oil. Arrowroot and other starches are also exported in small quantities, but not to the extent that could be wished ; while tapioca, which could be prepared from cassava starch, is almost unknown. Cassareep as a basis for sauces would doubtless become popular if properly introduced into other countries, and could easily be procured in quantity as a by-product of the manufacture of tapioca.

The government has had under consideration for several years past the desirability of subsidising the export of fruit, and especially bananas, for the American market. Up to the present nothing has been done, but there is no doubt that British Guiana could supply North America and Europe with tropical fruit if the matter were put on a proper footing. Oranges, mangoes, pineapples, and guavas grow here to perfection, and by the selection of good varieties could be much improved.

The fisheries of the colony are also capable of development to

a considerable extent. At present the supply is unequal to the demand, from the fact that very few persons are engaged in the industry, the result being that salt cod is imported in immense quantities. Really good fish of a great many kinds are, however, plentiful both on the coast and in the great rivers. The Indians dry the pacou and bring small quantities to market, but otherwise no attempt is made to preserve fish, partly because the supply can always be sold while fresh. A by-product of the fisheries — isinglass from the gilbacker — was exported in 1891 to the amount of 5,341 pounds.

The colony wants settlers — energetic and industrious people with some capital, prepared to "rough it" a little at first, in view of a future homestead where all the necessities of life and many of its luxuries will be at their command. Government land can be bought at a dollar an acre, and the properties of private persons often for considerably less. In both cases it would be covered with vegetation, either timber or the jungle which follows a partial clearing, to cut down which labour could be easily obtained, and the cost repaid by sales of timber and cord-wood. With some of the felled logs and thatch from the troolie palm, a house or shed can be erected in a few days, to which additions and improvements could be made at the settler's convenience. Such a place could in a few years be made an earthly paradise, and the settler be free from want and almost from care. An hour or two every morning and evening would have to be given to the provision grounds and live stock, while the middle of the day could be spent in some light employment under the shade of the trees, or in study.

There is a fascination in the stillness and quiet of the forest. It is perhaps less elevating than the hum and bustle of cities,

where the struggle for existence develops certain faculties to their greatest extent. Nevertheless there is something in the pathless woods and lonely shore — in that communion with nature only known apart from great crowds — which develops the mind, and makes man feel that life is worth living. Beneficent nature showers her gifts upon the inhabitants of the torrid zone. Houses need be little more than a roof; no coals are needed to warm them; clothes are only coverings; and no large barns or storehouses are needed, as crops ripen all the year round. With fewer necessities there naturally follows less worry and more time for recreation and pleasures of the gentler kinds.

Several projects for opening up the interior of the colony are now under consideration by the government. It is proposed to make roads or railways from Bartica up the banks of the Esse-quebo and to get over the difficulties of the rapids by means of short canals with locks where necessary. Were this done the development in the timber industry alone would be something wonderful, while the reduction of expenses on gold expeditions would at once allow hundreds of diggers to prospect on their own account, which now they are unable to do because of the expense.

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HAND-BOOK

OF

BRITISH GUIANA

BY

JAMES RODWAY, F.L.S.

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